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CLASSIFICATORY VERB STEMS IN THE APACHEAN LANGUAGES

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The Athapaskan languages frequently employ verb stems that refer not to a characteristic type of event, such as *stand* or *give* or *fall*, but to the class of object or objects conceived as participating in such an event, whether as actor or goal. Thus, in all the Apachean languages, there is no simple verb *to give* but a number of parallel verb themes consisting of a certain sequence of prefixes plus a classificatory verb stem. The sequence of prefixes is the same for each theme but the stem varies with the class of object referred to. *To give* (literally, *to cause an object of such and such a class to move completively to someone*) may be symbolized by the following formula: Oà·-··· (N. Ipf.; N. Pf.)···C [Act. tr., Mom.].[1]

O stands for any one of a set of pronominal prefixes which refer to the person to whom the object is given. à·- is a postposition meaning *to, at, about.* ··· symbolizes the paradigmatic elements (i.e., tense-modal prefixes, subject and object pronouns, number prefixes, and the like) necessary to the completion of a free verb form. The possible combinations and modifications of paradigmatic elements are rigidly determined by certain morphologic and phonologic rules.

The symbols in parentheses, (N. Ipf.; N. Pf.), specify the class of paradigm required in the imperfective and perfective modes N. Ipf. means that the imperfective mode is expressed by a paradigm employing a prefix ni-, actualized according to rule as ǹ- (or nì-), ń- (or ní-), or simply as a high tone on the vowel of the syllable immediately preceding it. Other classes of the imperfective paradigm employ other prefixes or, in perhaps a majority of cases, no prefix at all. N-imperfectives define an action moving toward an end-point or imperfective completive action. Similarly, the symbol N. Pf. indicates that verbs constructed according to this formula must have a ni- prefix in the perfective paradigm. Other perfective paradigms employ the prefixes yi- or si-, to mention only the two most frequent alternatives. Ni-perfectives define an action which has become completed or which has moved to an end-point.

C refers to one of four classifying prefixes (zero, ɬ-, d-, or l-) plus the stem of the classificatory verb. The verb stem has five or more principal forms, each characteristic of a given tense-mode and aspect. Finally, Act. tr., Mom. symbolizes the fact that verbs set up according to this formula are active transitives and that the verb stems must have the forms peculiar to their momentaneous aspect.

Given this formula, the necessary lexical data, and the phonologic and morphologic rules the formula implies, we can set up any form of the fifteen or more classificatory verbs which are symbolized by the formula. To illustrate this process, let us analyze two or three verbs selected at random from my Chiricahua Apache texts.[2]

[1] In the preparation of this paper I have used materials on Navaho collected by the late Edward Sapir. Data on the other Apachean languages is my own. Dr. Sapir had also begun to assemble material for a paper on this topic which he had no opportunity to finish. This data, now in my possession, has considerably lightened my task and improved my presentation.

An abstract of this paper was presented to the Seventh Special Summer Session of the Linguistic Society of America on July 21, 1944.

[2] H. Hoijer, Chiricahua and Mescalero Apache Texts. University of Chicago Press, 1938. The figures following each citation (e. g. 11.7) refer to the number of the text and the paragraph number, respectively.

nàǹ·ⁿdí·ɬ *we two will give* [both these horses with their burdens and all these pack animals] *to you.* 11.7. nà-, shortened from nà·- (< ni- *you* plus à·- *to*) by following syllabic n plus consonant. ǹ·- from ni-, completive imperfective prefix, plus length and low tone, the sign of the first person dual subject. Third person object and the classifier are zero. -ⁿdí·ɬ, momentaneous imperfective stem *to handle a set of objects.*

bà·gòdà·ɬté·ɬ *you* (dual) *will give* [my daughter] *to him.* 18.5. bà·- from bi- *him* plus à·- *to.* go-, fourth person object pronoun,[3] here referring to the speaker's daughter. dà·-, an irregular contraction denoting the second person dual of the future tense. ɬ-, classifier; -té·ɬ, momentaneous future stem *to handle a living being.*

yà·yíñ?ą́ *she gave* [a twenty-five cent piece] *to him.* 38.3. yà·- from yi-, third person object pronoun used when subject is also third person, plus à·- *to.* yí- is yi- as defined above with high tone by assimilation to the following syllabic n. ñ- (reduced from ní-), perfective prefix. Subject pronoun and classifier zero. -?ą́, momentaneous perfective stem *to handle a round object.*

bà·ǯíńǯà· *he gave* [a bundle of arrows] *to him.* 2.17. bà·- *to him.* ǯí- from ǯi-, fourth person subject pronoun, by assimilation to the following high-toned syllabic n. ń- (reduced from ní-), perfective prefix. Classifier zero. -ǯà·, momentaneous perfective stem *to handle a mass.*

The formula just described and illustrated is only one of many score that can be used with classificatory verb stems. It should be noted, however, that relatively few formulae are restricted to classificatory verb stems alone. Many, perhaps a majority, may be used with other verb stems as well. Let us examine, for example, the Navaho formula ha-···(D. Ipf.; Y. Pf.)···-V [Act. tr., Mom.]. Here ha- means *out of* (*an enclosed space*), D. Ipf. signifies a disjunct imperfective paradigm marked by certain formal peculiarities, Y. Pf. refers to a perfective paradigm employing a yi- prefix, and V stands for any verb stem which may occur in an active transitive construction of momentaneous aspect. The meaning of the stem, of course, must not conflict with that of ha-. On the basis of this formula we may construct verb forms similar to the following, only two of which possess classificatory verb stems.

hàǹ?à·h *you take a round object out of* (*an enclosed space*). ha- *out of* (*an enclosed space*); ǹ-, second person subject pronoun characteristic of the disjunct imperfective paradigm; zero classifier; -?à·h, momentaneous imperfective stem *to handle a round object.*

hàǹɬcó·s *you take a fabric-like object out of* (*an enclosed space*). Analysis as above except for ɬ-, classifier, and -có·s, momentaneous imperfective stem *to handle a fabric-like object.*

hàǹní·š *you pull out* [e.g. a weed from the ground]. Zero classifier and momentaneous imperfective stem -ní·š *to pull, pluck.*

hàǹɬtò·d *you suck it out.* ɬ-, classifier, and momentaneous imperfective stem -ɬtò·d *to suck.*

All classificatory verb stems appear in neuter or stative verbs as well as in the active. The principal formal criterion of neuter verbs is that they do not have separate paradigms for tense and mode like the active verbs. Temporal and modal modifications of neuter verbs must be expressed analytically by means of enclitic particles. Thus, for example, the neuter intransitive form (third person) sì?ą́ *a round object is in position* is modified for tense and mode as follows: sì?ą́·-lè *a round object used to be in position* (-?ą́·- < -?ą́ by reason of the following -lè *used to be*) and sì?ą́·-ɬté·? *a round object was in position* (-?ą́·- < -?ą́ by reason of -ɬté·?, past tense). All active verbs formed from stems related to -?ą́, however,

[3] The fourth person in the Apachean languages is used in referring to individuals standing in a more remote or in a respect relationship to the speaker. It may also be used in a context involving two third persons simply to distinguish the one from the other.

may be put through a gamut of five to seven tense-modal paradigms: ǹní?à·h *you put a round object down* (nì- *down;* ni-, eompletive imperfective; high tone, second person subject; -?à·h, momentaneous imperfective stem), ǹní?ą́ *I have put a round object down* (nì- *down*; ni-, perfective prefix; í-, first person subject; -?ą́, momentaneous perfective stem), ǹdí·?á·ł *you will put a round object down* (nì- *down*; dí·-, second person future tense; -?á·ł, momentaneous future stem), ǹná?á·h *you customarily put a round object down* (nì- *down*; ná-, iterative mode; high tone, second person subject; -?á·h, momentaneous iterative stem), and ǹʒó?á·ł *would that he put a round object down* (nì- *down*; ʒó-, fourth person optative mode; -?á·ł, momentaneous optative stem).

Neuters may be intransitive or transitive and may be conjugated in any one of several paradigms. Neuters defining a subject in a position of rest are constructed according to the formulae···(S. Pf.)···-V [Neut. intr.] and···(S. Pf.)···-V [Neut. tr.]. Examples: sìdá *he sits, is in a sitting position* (see also sì?ą́ quoted above) and sél?ą́ *I have a round object in a position of rest* (i.e., *I own, possess a round object*). Such neuters, it is clear, are characterized by a si- prefix. In the first example, the third person subject and the classifier are indicated by zero morphemes and the stem is -dá *one person sits.* sél?ą́ is derived from si- plus é-, first person subject, ł-, classifier, and the stem -?ą́. The third person object is indicated by a zero morpheme. Note, by the way, that neither the neuter formulae just illustrated nor any other (see below) are restricted to classificatory stems.

A third neuter formula is···(N. Pf.)···-V [Neut. intr:]. This differs formally from the preceding neuter intransitive formula only in the use of a ni- instead of a si-prefix. Ni-perfective neuters define a subject in horizontal position. Contrast, for example, sì?ą́ *a round object is in a position of rest* in the phrase cé sì?ą́ *a stone lies (there)* (cé *stone*) with ń?á *round objects lie in a row* in the phrase cé ń?ą́ *a row of stones extend off in a horizontal line* (ń- from ní-, perfective).

Some neuter verbs have a yi- prefix, others are found with a prefix similar to that used in the progressive mode of active verbs, and still others resemble paradigmatically the imperfective mode of the active verb. These we need not illustrate here since classificatory verbs as a whole are usually conjugated only in the si- and ni- perfective paradigms.

We are now in a position to list the more frequently occurring classificatory verbs. All the examples are from Navaho and are cited in the third person.

Class of Object	···(S. Pf.) ···-C [Neut. intr.]	···(N. Pf.) ···-C [Neut. intr.]
1. Round object	sì?ą́	ń?ą́
2. Long object	sìtą́	ńtą́
3. Living being	sìtį́	ńtį́
4. Set of objects	sìnìl	ńnìl
5. Rigid container with contents	sìką́	ńką́
6. Fabric-like object	sìlcò·z	ńlcò·z
7. Bulky object	sìžó·d	ńžó·d
8. Set of parallel objects	sìžò·ž	ńžò·ž
9. A mass	sìʒà·?	ńʒà·?
10. Wool-like mass	sìʒò·l	ńʒò·l
11. Rope-like object	sìlá	ńlá
12. Mud-like mass	sìƛé·?	ńƛé·?

It should again be emphasized that neuter formulae are by no means restricted to classificatory verbs. There are many non-classificatory perfective neuters in both si- and ni- of which the following are but a few examples: sìdá *he sits,* bì·? sì?è·z *therein he is footed, he has it on as footwear* (bì·? *in it*), šá sìdò *the sun is hot* (šá *sun*), sìžàh *it is bent like a hook,* sìɣìš *it is bent bow-like,* sìłkà·ž *it lies thin and even surfaced,* ní?á *a rigid object has horizontal extènsion* > *a (mountain) ridge,* ńsàs *seed-like objects lie in a row,* ńbà·l *a hanging fabric* (e.g. *a curtain*) *lies extended,* šá ńdí·n *the sun is horizontally*

alight > *sunlight* (šá *sun*), ńt̨ì? *a string-like object is strung horizontally*, ńdòn *it is drawn taut*, ńl̨ *the current extends horizontally* > *a river*.

Some of the examples quoted in the preceding, it is clear, differ from the classificatory verbs semantically in that they do not define a class of object participating as actor or goal in an event. Others, however, do have such classificatory implication; for example, ń?á, which refers to the horizontal extension (ni-perfective neuter) of rigid bodies (-?á) and ńsàs, which refers to the horizontal extension of seed-like objects. These, it is evident, are both morphologically and semantically similar to classificatory verbs.

Nevertheless, even such morphological and semantic parallels to the classificatory verbs do not properly belong to that category. This is seen when we come to examine the further ramifications of the classificatory verbs. All the twelve classes just established for the neuter formulae are, in the main, distinguishable with respect to scores of active formulae as well. For illustration, let us examine the twelve classificatory verbs in five active formulae: I. nì-···(N. Ipf.; N. Pf.) ···-C [Act. tr., Mom.] *to put a certain object down*, II. nà-···(D. Ipf.; S. Pf.)···-C. [Act. tr., Cont.] *to carry a certain object here and there*, III. dàh-···(D. Ipf.; S. Pf.)···-C [Act. tr., Mom.] *to hold a certain object up*, IV. nà-···(D. Ipf.; Y. Pf.)···-C [Act. intr., Mom.] *a certain object drops, falls*, and V. nà-···(D. Ipf.; Y. Pf.)···-C [Act. tr., Mom.] *to drop a certain object.*[4] All the examples quoted in the following table are from Navaho. Transitive verbs in all cases have the third person object.

The forms in column I all have the prefix ǹ- from nì- *down* combined with ń- or ní-, the completive imperfective ni- plus a high tone denoting the second person subject pronoun. The third person object is a zero morpheme. In column II the prefixes are nà- *here and there* and ǹ- from nì-, the second person subject pronoun in the disjunct imperfective paradigm. The third person object is a zero morpheme. The prefixes in column III are dàh- *up, upon*, yi- (y assimilated to the preceding h), progressive mode, and a high tone symbolizing the second person subject. Third person object denoted by zero. The prefix complex in column IV is composed of na- *down*, the vowel of which has been lengthened by an elided yi-, characteristic of the third person forms of the disjunct imperfective paradigm of intransitive verbs. In two cases, numbers 4 and 9, the formula should read: na-ni-··· (Y. Pf.)···-C [Act. intr., Mom.], where ni- is a terminative prefix. Column V prefixes are na- *down*; ǹ- or nì-, second person subject in the disjunct imperfective paradigm;

Class	I	II	III	IV	V
1.	ǹní?à·h	nàǹ?á	dàhí?á·ɬ	nà·lɛ́í·d	nàǹɬnè?
2.	ǹńt̨ì·h	nàǹtìn	dàhít̨·ɬ	nà·kɛ̀·s	nàǹɬìè?
3.	ǹńɬtè·h	nàǹɬté	dàhíɬté·ɬ	nà·ƛí·š	nàǹɬìè?
4.	ǹńní·ɬ	nàǹʒàh	dàhíʒih	nàǹdé·h	nàǹní·ɬ
5.	ǹńkà·h	nàǹká	dàhíká·ɬ	nà·kà·d	nàǹkà·d
6.	ǹńɬcó·s	nàǹɬcò·s	dàhílcòs	nà·né·h	nànì?á·d
7.	ǹńšò·d	nàǹšò·d	dàhíšòɬ	nà·lžò·d	nàǹšò·d
8.	ǹńšó·š	nàǹšò·š	dàhíšòš	nà·žó·š	nàǹšó·š
9.	ǹńʒá·h	nàǹʒàh	dàhíʒih	nàǹdé·h	nàǹní·ɬ
10.	ǹńlʒò·ɬ	nàǹlʒò·ɬ	dàhílʒòɬ	nà·ʒò·ɬ	nàǹɬʒò·ɬ
11.	ǹńlé	nàǹlé	dàhílé·ɬ	nà·dè·ɬ	nàǹɬdè·ɬ
12.	ǹńƛè·h	nàǹƛè·h	dàhíƛòh	nà·ƛè·h	nàǹƛè·h

[4] All abbreviations but Cont., continuative aspect, have been defined previously.

and a zero morpheme to denote the third person object.

In the first three columns there is but one case of overlapping: the forms in columns II and III for number 4 are identical with those in the same columns for number 9. Numbers 4 and 9 again fall together in columns IV and V. Numbers 2 and 3 are identical in column V.

From this sample of the ramifications of the classificatory verb may be established the principal morphological feature which distinguishes them from other verbs morphologically and semantically parallel in the neuter. For the pseudo-classificatory verbs, such as ńʔá *a rigid object has horizontal extension* and sìɣiš *it is bent bow-like* do not give rise to parallel active verbs. If we wish to say *you put down a rigid body* or *you put down an object bent like a bow*, we must employ the active verbs of the *long object* class (i.e. number 2 in column I). Only in the case of the classificatory verbs proper are there distinctive forms defining the movement and handling of the object or set of objects.

Classificatory sets are deeply rooted in all Athapaskan languages. Of the twelve sets listed, numbers 1–6, 8, 9, 11, and 12 are represented in their proper etymological correspondents in all Apachean dialects. However, even in closely related languages there may be sets not represented in others. In Chiricahua Apache, for example, we find a set used to describe the handling of objects of unknown size and character which is not found in Navaho.[5] The third person si-perfective neuter intransitive of this set is sìʔį́· *an object of unknown size and character is in position*. Following is an example of the functioning of this set from text 38, paragraph 10 of my Chiricahua and Mescalero Apache Texts. Here, the hero offers to recover for his protagonist something the latter values. The hero says: ʔáíí nà·náǹšʔį́· *I shall bring that thing* [not described and therefore of unknown character] *back to you* (ʔáíí *that thing*; nà·- *to you*; ná- *back*; ǹ- from ni-, completive imperfective; š-, first person subject; -ʔį́·, momentaneous imperfective stem *to handle an unknown object*). Later, in paragraph 14 of the same text, when it has been made clear that the lost object is a child, the hero, repeating his claim, says: dí·k̀èhé nà·náǹštè· *I shall certainly bring him* [a living being] *back to you* (dí·kèhé *certainly*; nà·náǹš-, as before; -tè·, momentaneous imperfective stem of number 3 *to handle a living being*.)

Similarly, the set based on -nìl (number 4) seems to be peculiar to the Apachean subgroup. Its place in most other dialects is taken by -lá (number 11). Significantly enough, there are many uses of the latter set in Navaho, as in verbs referring to *food, property*, and *ritual offerings*, which show that *set or group of objects* was its original connotation. Very archaic is such a place name (referring to two hills) as sǫ̀ʔsìlá, which in the modern language should mean literally *stars* (sǫ̀ʔ) *lie rope-like* (sìlá). Actually, however, its literal meaning is given *the stars* (i.e. a set of objects) *are in position*.

Again, there is an old Athapaskan classificatory set based on *-ɬ-tén (which becomes Navaho -ɬ-tį́) referring to dead bodies (cf. number 3, -tį́, of living beings). This form is no longer in free operation in Navaho. Nevertheless there are interesting survivals as, for example:

dàhìdéltį́ *the recently deceased person (or animal) hangs, he hangs in danger of death.* Cf. dàhìdétį́ *a being hangs, the meat hangs.*

nàhìńłtį́ *he hangs across, he lies across a passage-way*

ʔàhì·łtį́ *he lies with part of his body extending into (a hole).*

cístí·n from *cí-z-ɬ-tí·n *unsound of body, bruised, liable to injury because of former hurt.*

In this peculiar set the original connotation of *dead body* seems to have shifted in Navaho to that of *living body in danger of death.*

[5] Objects in this category are classed in set number one in Navaho.

It is understood, of course, that the classificatory verb sets we have been describing are not precisely defined by the brief glosses we have used to distinguish them. Like similar sets in other languages, the inclusion of a given object in one or other group is often an arbitrary matter, dependent on processes of categorization not entirely clear. But the Apachean verb sets, like the Bantu noun classes, do adhere rather closely to semantic realities. They are not, like the gender categories of various Indo-European languages, almost entirely dependent upon purely grammatical considerations.

To demonstrate this point we may consider the following list of classificatory verb forms culled from my Chiricahua Apache texts. Not all the categories are well represented and three (numbers 7, 10, and 12) are not exemplified at all. A majority of examples are found in the 'round object' class which in most of the Apachean languages functions as a sort of generalized group.[6]

1. *Round object.*

a. ǹʒíń?ą́ *they put* [the piece of meat] *down*. 2.7.[7] ǹ-*down*; ʒí- from ši-, fourth person subject; ń-, perfective mode; -?ą́, momentaneous perfective stem.

b. hàyó·?ą́ *he took out* [a stone axe]. 4.9. ha- *out of* (*an enclosed space*); yó·- from yi-, third person object, and hó·-, perfective mode; -?ą́, momentaneous perfective stem.

c. sì?ą́ [the heart of the Giant] *lay* [under his foot]. 7.12. Third person si- perfective neuter intransitive.

d. yì·s?ą́ *they held* [a ceremony]. 10.2. yì·s- from yi-, third person object, si-, perfective mode, and ɬ-, classifier. -ɬ-?ą́ *to have a round object in position* [Neut. tr.].

e. nàhà·déń?à· *you will give us* [that tree]. 11.7. nàh- *us*; à·- *to*; déń- from di- plus ni- (both of uncertain meaning) and a high tone denoting the second person subject; -?à·, momentaneous imperfective stem.

f. šàń?à· *give me* [the knife]ɬ. 13.6. šà-, reduced form of šà·- from ši- *me* plus à·- *to*; ń- from ni-, completive imperfective, plus high tone denoting the second person subject; -?à·, momentaneous imperfective stem.

g. sì?ą́ [a big rock that] *was lying* [there]. 14.1. Cf. 1c.

h. ʒɬìsì?ą́í *the mountain that lies over yonder*. 17.9. A common expression in the myths and stories. ʒɬ *mountain* plus a relative in -í *that which* of the third person si-perfective neuter intransitive. Cf. 1c, g.

i. náyíń?ą́ *he had brought back* [a liver that was rotten]. 18.4. ná- *back*; yí- from yi-, third person subject; ń-, perfective mode; -?ą́, momentaneous perfective stem.

j. ǹyíń?ą́ *he had put* [his pack] *down*. 24.3. Note, in the preceding text paragraph (24.2), the use of ǹdà·yè·sⁿdìl (a verb form of class 4 *set of objects*) *they put* [their packs] *down* [just anywhere]. ǹyíń- from ǹ- *down*; yi-, third person object; ń-, perfective mode. -?ą́, momentaneous perfective stem.

k. ?i?ó·?ą́ *the sun had set*. 17.5, 14, 25, 26; 25.2. In all Apachean languages the active intransitive stems of the *round object* verb with a thematic prefix ?i-, probably symbolizing an indefinite subject, is used to refer to the movements of the sun. In this example, ?i- means *off, away*; ?ó·- is the thematic prefix ?i- plus hó·-, perfective mode; and -?ą́ is the momentaneous perfective stem of the active intransitive verb *a round object moves*. The theme (i.e. prefix ?i- plus the stem) means *a certain round object* (i.e. *the sun*) *moves*. Cf. yà·ʒi?dè·s?ą́ *the sun had begun to go down*. 20.4. yà·ʒi *down*; ?- from ?i-, thematic prefix; dè·s- from di- *to begin to* plus si-, perfective mode. hà?ó·?ągò *at sunrise*. 19.15. ha- *out of* (*an*

[6] These examples are not intended to justify the glosses given to each verb set but are merely to illustrate some of the referents for verbs of this type found in the Chiricahua texts. In a later paper I hope to discuss in some detail the semantic categories implied by the classificatory verb stems.

[7] The enclitic -ná?à *it is said* has been omitted from this and all the following forms cited. The references in all cases are to my Chiricahua and Mescalero Texts.

enclosed space); ʔó·- from ʔi-, thematic prefix, plus hó·-, perfective mode; -ą́, momentaneous perfective stem; -gò, subordinating enclitic.

l. Paragraphs 16, 17, and 18 of text 38 illustrate well the use of classificatory verbs. In 16 the hero says: gòscàhí···šàńʔà· ʔákò· nà·náǹštè· *give me the ring and I'll bring him back to you.* gòscàhí *ring*; šàńʔà· *give it to me* (for analysis, see 1f); ʔákò· *and*; nà·náǹštè· *I'll bring him* [a lost child] *back to you* (for analysis, see p. xx). Then, in 17, the other character answers: ···bé·sòí łágò nàǹšą́·š. ʔákò· šà·náńłtè· *I'll give you much money. Then you bring him back to me.* bé·sòí *money*; łágò *much*; nàǹą́·š *I'll give it to you* (for analysis, see 9i); šà·náńłtè· *you bring him to me* (šà·- *to me*; ná- *back*; ń-, ni- completive imperfective, plus high tone denoting the second person subject; ł-, classifier; -tè·, momentaneous imperfective stem *to handle a living being*).

2. *Long object.*

a. nâiǹ·tą́ *he picked up* [the gun]. 6.7. nâiǹ·- from ná-yi-di-ni-, where ná-···di- means *up*, yi- is the third person object, and ni- the perfective prefix. -tą́, momentaneous perfective stem.

b. sìtą́í [a dead tree] *that lay* [there]. 13.5. Third person si-perfective neuter intransitive plus -í *that which.*

c. nâiǹ·tą́ *he picked up* [a stick]. 17.1. For analysis, see 2a.

d. sìtą́gò [one of the sticks] *lying* [on the ground]. 39.8. Third person si-perfective neuter intransitive plus the subordinating enclitic -gò.

3. *Living being.*

a. ʔináǯìłtè· *she customarily put* [the baby] *away.* 1.11. ·ʔi- *away*; ná-, iterative mode; ǯi-, fourth person subject; ł-, classifier; -tè·, momentaneous iterative stem.

b. sìtį́ [the bull] *lay there.* 3.3, 10. Third person si-perfective neuter intransitive.

c. nágòǹ·łtį́ *he picked him* [the culture hero] *up.* 4.4. nágòǹ·ł- from ná-go-di-ni-ł-, where ná-···di- means *up*, go- is the fourth person object, ni- the perfective prefix, and ł- is the classifier. -tį́, momentaneous perfective stem.

d. ʔìtà sìtį́gò [that person who was big] *was still there.* 7.12. ʔìtà *still* plus the third person si-perfective neuter intransitive.

e. gàh sìtį́gò *rabbit lying* [on the edge of the road]. 13.1. gàh *rabbit.* Third person si-perfective neuter intransitive with the subordinating enclitic -gò.

f. bà·dà·łté·ł *you will give* [this oldest girl] *to* [any-] *one.* 18.20. bà·- from bi- *him* and à·- *to.* dà·-, second person dual form of the future tense prefix. ł-, classifier; -té·ł, momentaneous future stem.

g. sìtį́ [the man who was sick] *lay* [there]. 35.5. Cf. 3b, d, e.

h. bį́· nàhàǹštè· *I shall give you* (dual) *deer.* 37.5. bį́· *deer.* nàhà- reduced from nàhà·- which is from nàh- *you* (dual) and à·- *to.* n-, completive imperfective; š-, first person subject combined with ł-, classifier. -tè·, momentaneous imperfective stem.

i. ʔákò· nà·kìzá·lí yà·yíńʔą́ ʔákò· bà·-yíńłtį́ *then he* [the hero] *gave him* [the storekeeper] *a twenty-five cent piece and he* [the storekeeper] *gave* [the dog] *to him* [the hero]. 38.6. ʔákò· *then*; nà·kìzá·lí *a twenty-five cent piece*; yà·yíńʔą́ *he gave a round object to him*; bà·yíńłtį́ *he gave a living being to him.* yà·yíń- and bà·yíń- are from yi-à·-yi-ń- and bi-à·-yi-ń-, respectively. yi- and bi- are third person objects (to differentiate the two different *third persons* here referred to). à·- *to*; ń-, perfective mode. -ʔą́ and -tį́, momentaneous perfective stems of classes 1 and 3, respectively. -tį́ requires the classifier -ł- in this form.

4. *Set of objects.*

a. hàǯó·ᵊdìl *he removed* [all of the intestines of the bull he had killed]. 4.1. ha- *out of* (*an enclosed space*). ǯó·- from ǯi-, fourth person subject, plus hó·-, perfective mode. -ᵊdìl, momentaneous perfective stem.

b. ʔìǯiᵊdí·ł *he scattered* [the feathers in all directions]. 4.22. ʔi- *away*; ǯi-, fourth per-

son subject; -ⁿdí·ɬ, momentaneous imperfective stem.

c. bé·sò yà·dàhyè·sⁿdìl *he put silver dollars upon it.* 11.2. bé·sò *silver dollars.* yà·- from yi-, third person object, plus à·- *to.* dàh- *up, upon.* yè·s- from yi-, third person object, plus si-, perfective mode. -ⁿdìl, momentaneous perfective stem.

d. bà·ǯíńⁿdìl *they gave him* [all of that which they had been traveling]. 11.9. bà·- from bi-, third person object, plus à·- *to.* ǯíń- from ǯi-, fourth person subject, plus ń-, perfective mode. -ⁿdìl, momentaneous perfective stem.

e. ʔìgòyè·sⁿdìl *he put* [all of the dead prairie dogs] *in* [there]. 17.23. ʔìgòyè·s- from ʔi-go-hi-si-, where ʔi-···hi- means *into,* go- is the fourth person object, and si- is the perfective prefix. -ⁿdìl, momentaneous perfective stem.

f. nà·yàⁿdìɬ *he was dropping* [the maggots]. 18.8. nà·- *down;* yà- from yi-, third person object, plus progressive mode prefix. -ⁿdìɬ, momentaneous progressive stem.

g. šà·ʔńⁿdí·ɬ *give me* [some soldiers], 38.33, and bà·ʔńⁿdìl *he gave him* [some soldiers], 38.34. šà·ʔń- is from ši-, first person object; à·- *to;* ʔi-, indefinite object; ń- from ni-, completive imperfective, plus a high tone denoting the second person subject. bà·ʔń- is from bi-, third person object; à·- *to;* ʔi-, indefinite object; ń-, perfective mode. -ⁿdí·ɬ, momentaneous imperfective stem; -ⁿdìl, momentaneous perfective stem. The use of this stem for a group of living beings is unusual.

5. *Rigid container with contents.*

a. kǫ̀·dàsìkáí *the fire which lay there.* 1.11. kǫ̀· *fire.* dàsì- is from dàh- *upon* plus si-, perfective neuter. -ká, neuter intransitive stem; -í *that which.* The fire was probably built in a small hollow or pit. Cf. 5b, below.

b. tó sìká *a* [pool of] *water lay* [there]. 10.11. tó *water* plus the third person si-perfective neuter intransitive. Note also tósìkáí *the* [pool of] *water that lay* [there], 10.12. Here tó *water* and sìká are united by the relative -í *that which.*

c. bìčį·ǹǯíńká *they put* [a bowl of gravy] *before him.* 26.2. bi- *him;* čį·- *toward, before;* ǹ- *down;* ǯí-, fourth person subject; ń-, perfective mode; -ká, momentaneous perfective stem.

6. *Fabric-like object.*

a. nâiǹ·łcò·z *she picked up* [a baby's blanket]. 1.22. nâiǹ·- from ná-yi-di-ni- where ná-···di- means *up,* yi- is the third person object, and ni- signifies the perfective mode. ł-, classifier; -cò·z, momentaneous perfective stem.

b. nâin·łcò·z *he picked up* [some old worn-out soldiers' coats]. 17.1. Analysis as in 6a.

c. nánílcò·z *I have brought back* [these coats]. 17.5. ná- *back.* ní- from ni-, perfective mode, plus í-, first person subject (in perfective paradigms). ł-, classifier; -cò·z, momentaneous perfective stem.

d. náyíńłcò·zé *he who has brought* [the coats] *back.* 17.9. ná- *back;* yí- from yi-, third person object; ń-, perfective mode. ł-, classifier; -cò·z, momentaneous perfective stem; -é, an archaic relative.

8. *Set of parallel objects.*

a. sìžò·ží [some big pine logs] *which were lying* [at his side]. 2.19. Third person si-perfective neuter intranstive plus the relative -í *that which.*

9. *A mass.*

a. ǹǯíńǯà· *they put* [a pile of grass] *down.* 2.7. ǹ- *down;* ǯí- from ǯi-, fourth person subject; ń-, perfective mode; -ǯà·, momentaneous perfective stem.

b. náyìǹ·ǯà· *he picked up* [a bunch of arrows]. 2.15. náyìǹ·- is from ná-yi-di-ni- where ná-···di- means *up,* yi- is the third person object, and ni- the prefix for the perfective mode. -ǯà·, momentaneous perfective stem.

c. ʔìłká·ʔsìǯà·gò [four layers of flint] *lying on one another* [served him as a coat of

armor]. 2.28. ʔɨłká·ʔ- *on top of one another*. Third person si-perfective neuter intransitive plus the subordinating enclitic -gò.

d. ɮàɮlš *he was carrying* [a handful of salt]. 5.8. ɮà- is from ɮi-, fourth person subject, plus the progressive mode prefix. -ɮlš, momentaneous progressive stem.

e. yàɮlšgò *carrying* [four fat prairie dogs]. 18.5, 16, 20. yà- is from yi-, third person object, plus progressive mode prefix. -ɮlš, momentaneous progressive stem; -gò, subordinating enclitic.

f. yàɮlš [all of them] *carried* [sabres]. 19.21. Analyzed in 9e. The reference is to a group or knot of dancers carrying sabres, giving the effect of a cluster or mass of sabres being moved along.

g. náyíńɮà· *they had brought back* [some green coffee]. 28.1. ná- *back*; yí- from yi-, third person object; ń-, perfective mode; -ɮà·, momentaneous perfective stem. Note, later in the same paragraph, yó·ⁿdìl *they have put* [the green coffee into a pot]. yó·- is from yi-, third person object, plus hó·-, perfective mode, and -ⁿdìl, momentaneous perfective stem for objects of class 4. In 28.3: ʔìnàhɮá·š *pass* [some of that green coffee] *here*. ʔi-, indefinite object; nàh- from ni-, completive imperfective, plus ah-, second person dual subject; -ɮá·š, momentaneous imperfective stem for objects of class 9. There is some overlapping in Chiricahua Apache between classes 4 and 9. See also 9h, below.

h. hàɮó·ɮà· *he had taken out* [a handful of entrails from a rabbit]. 32.3. ha- *out of* (*an enclosed space*); ɮó·- from ɮi-, fourth person subject, plus hó·-, perfective mode; -ɮà·, momentaneous perfective stem. But, in the same paragraph of text, we find: hàʔɮiⁿdí·ɬ *he was taking* [the insides] *out of* [a rabbit] and yà·náɮíńⁿdìl *he had thrown* [the rabbit entrails] *back out* [there]. hàʔɮi- is from ha- *out of* (*an enclosed space*); ʔi-, indefinite object; an ɮi-, fourth person subject. yà·náɮíń- is from yà·- *off, away*; ná- *back*; ɮi-, fourth person subject; and ń-, perfective mode. -ⁿdí·ɬ, momentaneous imperfective stem, and -ⁿdìl, momentaneous perfective stem, both referring to objects of class 4. See 9g, above.

i. nàǹɮá·š *I shall give you* [much money]. 38.15. nà-, reduced form of nà·- from ni- *you* plus à·- *to*. n-, completive imperfective; š-, first person subject; -ɮá·š, momentaneous imperfective stem.

j. sìɮà· *there were* [some frog soldiers]. 38.31. Third person si-perfective neuter intransitive. Here -ɮà· is used for a group of living beings. Cf. 4g.

11. *Rope-like object.* In Chiricahua Apache this category also includes sets of two objects and, as in Navaho, overlaps class 4 (*set of objects*).

a. báǹnáyíńlá *he put back for him* [only two of the worst prairie dogs]. 17.25. bá- is from bi- *him* plus á- *for*. ǹ- *down*; ná- *back*; yí- from yi-, third person object; ń-, perfective mode; -lá, momentaneous perfective stem.

b. báǹnáɮíńláǹí *the* [two worst prairie dogs] *that he had put back for him*. 17.27. Same as 11a with ɮí- from ɮi-, fourth person subject, (third person object zero); -ǹ, past tense enclitic; and the relative -í *that which*.

c. náyìǹ·láyá *he picked up* [the two worst prairie dogs] *and*. 17.29. náyìǹ·- is from ná-yi-di-ni, where ná-···di- means *up*, yi- is the third person object, and ni- the perfective prefix. -lá, momentaneous perfective stem; -yá, subordinating enclitic *and*.

d. ɮìłbìzą̨i sìlá *several little mountains lay* [there]. 22.11. ɮìł *mountain*, bìzą̨i *small ones*, sìlá, third person si-perfective neuter intransitive. Cf. 1h.

e. nâiǹ·lá *he picked up* [a small piece of rope]. 29.2. nâiǹ·-, a variant pronunciation of náyìǹ·-, analyzed in 11c. -lá, momentaneous perfective stem.

f. yêislá *he put* [his tail] *against* [her face]. 38.38. yêis- is from yi-é-yi-si-, where yi- (both of them) denotes the third person object, é- means *against*, and si- is the per-

fective prefix. -lá, momentaneous perfective stem.

It is now clear that Apachean verb stems may be divided into two major groups on the basis of the kind of event to which they refer. In one group we find verb stems denoting a specific type of action or behavior. Forms like Chiricahua ʔáᵊdí *he speaks so*, hòɬγòɬ *he is walking, moving*, and nà·híɬᵊdì· *you buy it* employ verb stems (i.e. -ᵊdí *to speak* [Mom. ipf.], -ɬ-γòɬ *to move, go* [Mom. prog.], and -ɬ-ᵊdì· *to buy* [Mom. ipf.]) of this kind. Also included in this category are numerous verb stems denoting various qualities or attributes: dìɬxɬ *he is black*, ɬìbá *he is gray*, ɲcà· *it is big*.

In the second group we find verb stems which refer to a class of object participating in an event, either as actor or as goal. These are of course the classificatory stems. We have seen how an event such as the one expressed by the verb *to give* in English is symbolized in the Apachean languages by twelve or more distinct verbs. Classificatory verbs are, furthermore, intricately ramified. Beginning with a neuter intransitive denoting an object of a particular type in position or at rest, there may be found scores of verb forms having to do with the movement and the handling of that particular object class. To emphasize this point, which is a major difference between truly classificatory stems and those which are only implicitly classificatory, it will be instructive to observe systematically the range of forms included within one such verb set. Let us take for example, the *round object* verb in Navaho.

1. -ʔą́, neuter intransitive stem. Example: · · · (S. Pf.) · · · -ʔą́ [Neut. intr.] as in ʒìɬ sìʔą́ *a mountain lies* [over yonder]. ʒɬ́ *mountain*.

2. -ɬ-ʔą́, neuter transitive stem. Example: · · · (S. Pf.) · · · -ɬ-ʔą́ [Neut. tr.] as in hàtá·l sɛ́ɬʔą́ *I present a ceremony*. hàtá·l *ceremony* plus the first person of the verb.

3. -ʔà·h, -ʔą́, -ʔá·ɬ, -ʔá·h, -ʔá·ɬ, stems for the active intransitive, momentaneous.[8] Example: ʔi-ʔa- · · · (Y. Pf.) · · · (with the preceding stems) *the sun sets* as in ʔèʔèʔà·h *the sun is setting*, ʔìʔí·ʔą́ *the sun has set*, ʔìʔdò·ʔá·ɬ *the sun will set*, ʔèʔèʔá·h *the sun usually sets*, and ʔìʔóʔá·ɬ *would that the sun set*.[9]

4. -ʔá·h, -ʔą́, -ʔá·ɬ, -ʔá·h, -ʔá·ɬ, stems for the active transitive, momentaneous. Example: nì- · · · (N. Ipf.; N. Pf.) · · · (with the preceding stems) *to put a round object down* as in ɲɲšʔà·h *I put* [e.g. a stone] *down*, ɲníʔą́ *I have put* [a stone] *down*, ɲdè·šʔá·ɬ *I shall put* [a stone] *down*, ɲnášʔá·h *I repeatedly put* [a stone] *down*, nò·šʔá·ɬ *would that I put* [a stone] *down*.

5. -ʔàʔ, -ʔą́, -ʔà·ɬ -ʔà·h, -ʔàʔ, stems for the active intransitive, continuative. Example: nà-ʔa- · · · (S. Pf.) · · · (with the preceding stems) *the sun moves about* as in nàʔàʔàʔ *the sun moves about*, nàʔàzʔą́ *the sun has moved about*, ɲʔdò·ʔà·ɬ *the sun will move about*, nàʔàʔà·h *the sun usually moves about*, nàʔóʔàʔ *would that the sun move about*.

6. -ʔá, -ʔą́, -ʔà·ɬ, -ʔà·h, -ʔàʔ, stems for the active transitive, continuative. Example: nà- · · · (D. Ipf.; S. Pf.) · · · (with the preceding stems) *to carry a round object about* as in nà·šʔá *I carry* [e.g. a stone] *about*, ɲsɛ́ʔą́ *I have carried* [a stone] *about*, ɲdè·šʔà·ɬ *I shall carry* [a stone] *about*, ɲnášʔà·h *I repeatedly carry* [a stone] *about*, nàošʔàʔ *would that I carry* [a stone] *about*.

Finally we find a third group of stems which stand between the two categories just outlined. Some of these are to be distinguished from the classificatory stems only in their neuter forms; active verbs denoting

[8] The stems, here and in subsequent paragraphs, are listed in the following order: imperfective, perfective, progressive and future, iterative and usitative, and optative.

[9] It is understood that here and in the following paragraphs we have chosen to illustrate only one prefix plus stem formula. There are many other prefix combinations which may be used with each set of stems.

the movement or handling of their object class are the same as those of some other classificatory type. An example of this phenomenon is found in the Navaho sɬɣɬš *it is benɬ bow-like*, for when we speak of handling a *bow-like object* we must use active verbs of the *long object* class.

Still other stems of the third group combine meaning peculiar to stems of groups one and two. Such a stem is -dá *one person sits*. Here the form has to do with a special class (i.e. *one living being*) but to that class in reference only to the specific event of sitting. When we speak of the movement or handling of a living being, the verb stems of class 3 must be used.

YUNKA, LANGUAGE OF THE PERUVIAN COASTAL CULTURE

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1. The place of Yunka among Peruvian languages
2. Sources describing Yunka
3. Phonetics
4. Nouns
5. Noun deriving suffixes
6. How sex is indicated
7. Plural number
8. Noun cases
9. How possession is indicated
10. Other nominal elements
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1. Yunka, in spite of what various writers have said, is like Quechua in many features and vocables. The present description is for the purpose of giving an idea of the structure of the language, which is culturally important next to Quechua and of which there has been no modern exposition. A comparison of the Yunka language with Quechua has been made, but the present paper is entirely divorced from comparative material.

The languages of the Inca Empire are usually enumerated as four: Quechua, Aimara, Uru and Yunka. The Inca sovereigns are said to have had a more or less secret language used among themselves, but their everyday speech to the populace and the native tongue of the Cuzco region of what is now Peru was Quechua, a language still spoken by several million people and known preeminently to have been the main linguistic form of the Incas.

The Aimara language, genetically related to Quechua, continues to be spoken on the southern shores of Lake Titicaca and a large part of the southernmost coast region of Peru and a part of northern Chile. Aimara is the old Quechua form of the name of the Aimara tribe and language.

What is given as the third language of the Empire is the heralded Uru, now to be heard spoken chiefly in the Desaguadero region south of Titicaca Lake. The Puquian language, written up generations ago by one of the early padres, has some words in common with Uru and is probably a divergent form of Uru. In Quechua uru mean *spider*, but is also the tribal and linguistic name.

The fourth language of the Empire, and the subject of the present paper, was the Yunka, probably spoken along all the central coast of what is now Peru, but during recent generations spoken only on what is the extreme northern coast of Peru, in the Diocese of Trujillo, at the near-coastal town of Etén, where it is now in process of dying out. Yunka, as the language of the famous culture of Chimu, was the vehicle of a culture fully as high as that of Cuzco itself.

The term Yunka is a more phonetic spelling of the Quechua term yunca *plain* or *valley*, being applied especially to the hot valleys of the Andes and of the ocean coast. "yunca vel yuncaquinray, los llanos ó valles." [Mossi (Honorio), Diccionario Quechua-Castellano, Sucre, Bolivia, 1860, col. 272.] "yunca, warm tropical valleys on the coast, also east of the Andes." [Markham (Sir Clements), Vocabularies, London, 1908, p. 74.] "yunca, das heisse Thal, besonders an dem östlichen Abhange der Anden, aber auch von den Küstenthälern gesagt." [Middendorf (E. W.), Wörterbuch des Runa Simi, Leipzig, 1890, p. 115.] Originating from the hot inland valley application of the term, there is a Province in Bolivia, east of La Paz, called Las Yungas. The spelling yunga, with g for c, is comparable to the spelling Inga for Inca, and is found in earlier and modern usage.

By the time of the coming of the Spaniards, Quechua occupied all the central Peruvian coast, all the vast coastal region between the Yunka on the north and the Aimara on the south.

Yunka became known to Peruvians especially as the language of Trujillo, which was early the seat of the bishopric now known as the Diocese of Trujillo. The city of Trujillo was, and is, on the north side of the Moche River near its mouth, while the town of Moche is on the south side, across the river from Trujillo. The old name of Trujillo was Chimu, or more correctly Chimorr, or Chamorr, and was the capital of the Yunka speaking population, being to this population somewhat as Cuzco was to the Quechua speaking population. The excavation of the palace at Chimu has given terminology of the older and later Chimu period to Peruvian archeology. Markham makes a mistake when he gives: "chimu, chief of a nation on the coast" [Markham (Sir Clements), Vocabularies, London, 1908, p. 74,] apparently misrendering Spanish capital as chief and not as capital. To make Chimu the name of the tribe or language is like saying the Trujillo tribe, the Trujillo language.

The native name of Moche, across the River from Trujillo, is Muchik, and the Yunka variety of language has been called Muchik and Mochica.

According to Calancha (Antonio de la), Corónica Moralizada, Barcelona, 1638, the language of the Trujillo Valley was called Quingnam.

2. There is just one early grammar of the Yunka language: Carrera (Pater Fernando de la), Arte de la Lengua Yunga de los Valles del Obispado de Trujillo del Peru, Lima, 1644. This has been reprinted twice: once in 1880 in a small edition of 200 copies by Soldán (Paz), and recently in a very careful, but not facsimile, edition by Altieri (Radamés A.) as Publication 256, Departamento de Investigaciones Regionales, Universidad de Tucuman, Tucuman, 1939. Father Carrera was stationed for ten years at Reque, about a hundred miles upcoast from Trujillo; the language written up by him is that of Reque. At Etén, town at the mouth of the Reque River and three miles downstream from Reque on the same southern edge of the Reque River, the language, very similar to that obtained by Carrera, was still remembered a generation or two ago and was obtained by Middendorf, who made a long stay at Etén, checking during this stay thoroughly on the Carrera grammar. Yunka was the speech of the Departamento of Lambayeque, in which Reque is situated, and of Libertad, in which Trujillo is situated and of which it is the capital. If it is safe to go by the extent of the bishopric of Trujillo coinciding with the Yunka linguistic area, the Departamentos of Amazonas, Cajamarca, and perhaps Ancachs, would be included.

Place names constitute a slender criterion to follow. Some of these ending in -ngo, as, for instance "Corongo" in northeastern Ancachs Departamento, may remain from a former Yunca or Yunca-like occupancy of the coast country south of Trujillo, as has been pointed out by Uhle (Max), Fundamentos Étnicos y Arqueología de Tacna y Arica, Quito, 1922. Just as there are many place names in the Peruvian highlands ending in -hua. But -ngo can be explained from Atacama of the Chile region as well as from Yunka, and chuqui-, *gold*, of Chuquisongo, a place near Trujillo, and -marca of Caja-marca are certainly of Aimara origin though occurring in what was Yunka linguistic territory.

Rivet has settled upon calling the stock Yunka, substituting k for c. This nomenclature is adopted in his sectional material in Meillet (A.) et Cohen (Marcel), Les Langues du Monde, Paris, 1924, and is also adopted elsewhere by Rivet.

The native Yunka form of Reque is Rekep, that of Etén is Aetim, that of

Lambayeque (more properly in Spanish Llambayeque) is NYampayek.

Quechua was the language south from and inland from the Yunka.

But north and upcoast from the Yunka stock, still another stock obtained which has been called by Rivet the Sek. It was the native language of the Departamento of Piura, and perhaps of the Provincia Litoral de Tumbes, which lies just north of Piura Departamento.

Our main source is, and will always remain, the Yunka grammar by Carrera. It was written by a native of Trujillo stationed as Cura and Vicario at Reque, who may have known the language from childhood and who at least at that period had unequalled opportunities for hearing it, since it was then spoken by some four thousand Indians. But Carrera's grammar is difficult to understand and to rearrange.

Hervás (Lorenzo), the Jesuit Father who after spending some years in South America went to Rome and published a most valuable Catálogo de las Lenguas, Madrid, 1800, lists Yunka and separates it from all the other languages of Peru.

No further publication as regards the Yunka stock was made until there appeared Bastian (A.), Die Culturländer des Alten America, 2 vols., Berlin, 1878. Volume 1 of this work contains a list of 214 entries of words taken by Bastian at Etén.

Only one year later, the Revista Peruana, printed at Lima, started to republish the Carrera Grammar, but never finished. The following year, 1880, Soldán (Paz) came out with a complete reprinting of the Carrera grammar, published at Lima, in an edition of only 200 copies and which has now become a rare book.

The indefatigable Dr. Middendorf went to Etén about 1890 and spent a long time there, rehearing and correcting the Carrera grammar taken at Reque only three miles away, and publishing at once his results: Middendorf (E. W.), Das Muchik oder die Chimu-sprache, Leipzig, 1892.

Villareal, publishing in 1921, gives two lists of words collected by himself at Etén: Villareal (Federico), La Lengua Yunga o Mochica, Lima, 1921.

And most recent of all comes Hoyle, who sent to Professor Altieri 174 words collected by Hoyle at Etén, from Hoyle's unfinished book: Hoyle (Rafael Larco), Los Mochicas, Lima, 1939.

3. The vowels of Yunka are a o u e i j. These occur short and long, except that e and j occur only short. To these are to be added in Yunka the two impure diphthongs ä and ü, which occur only short. There are in Yunka four diphthongs: ai oi, ui, ei.

The consonants of Yunka are best presented arranged in series:

p f m. The f is sometimes voiced.

th d c tc tch s ts tsh r l n. The th is aspirated.

The r at the beginning or end of a word sounds trilled or doubled.

lY nY y; k x N; X; h.

Carrera's æ is largely rendered by others as e. Thus Carrera mecheræc *woman*; Bastian mecherque *woman, female.* æ is written in the present paper as ä, to avoid Carrera's awkward character.

Carrera writes c followed by inverted h, thereby indicating some off-variety of ch. Middendorf catches the sound in this only sporadically, but it is sufficient to show that aspirated tc is intended.

That Carrera's ç is for ts is proved by Carrera çap *headhair*; Middendorf tsap.

Carrera states that in his time there was varying pronunciation as regarded various Yunka dialects. One of the notable changes is that Carrera's l largely appears as χ in more modern vocabularies, but can be rendered as l.

According to the limited material which one has to judge by, the vowel sound of o is rather copiously inserted in the language, certainly according to rules which have never been determined. Thus between two nouns in apposition: Rekep-o iun *the place*

Reque; or after an adjective before a noun: penY-o metcerrăk *a good woman*. Even -yo- appears, for instance in nanku-yo, ordinarily nanku *male animal*.

The elision of -óo, ending the genitive, when another word of the same sentence follows, is the opposite of the above phenomenon. Thus tcoχe fanuss *the boy's dog*, instead of tcoχ-eioo fanuss.

Carrera and the other sources fail to give the accent practised in the Yunka language.

4. Most Yunka nouns are monosyllabic and terminate in the vowel of the base. According to origin, nouns are prime or derived, both of these sorts appearing uncompounded and compounded. If compounded, the postbase takes the ending or endings.

5. There are in Yunka certain suffixes which can be viewed as deriving nouns from other nouns, adjectives, or verbs.

-ăk, -uk, -ik instrumentational suffix: NeN-uk *toy* (NeiN *to play*); ssiad-ik *bed* (ssiad *to sleep*); fil-uk *seat* (fel *to sit*); man-ik *drinking vessel* (man *to drink*). Some of these nouns apparently do not have instrumentational meaning. Thus ărk-ik *body, meat* (ark-eN *own-body*); siek-ik, *lord, ruler*. -ăss, -em, -nep, -ssăk abstractive suffixes: penY-ăss *kindness* (penY *good*); ssiad-em *sleep* (ssiad *to sleep*); fü-nep *ridgepole, treetop* (fü, *needle*); tci-ssăk *being, willpower, urge, understanding* (tci *to be*).

6. Sex is expressed by preplacing age-sex nouns such as those for *man, woman*, before the noun, nanku for *non-human animal male* replacing Nofăn *man*, when non-human male is designated.

7. Instead of having the plural suffix of the noun merely different from that of the singular, Yunka often relies on the verb or on the context for indicating that a noun is plural, or else resorts to an analytical method for forming the plural of a noun by putting a pluralizing suffix immediately after the base, and before other suffixes, if there are any. This plural ending is -ăn. The genitive case ending comes after it, with exception of the third genitive formation, which becomes split, with insertion of -ăn in the middle of the genitive. Thus -N-ăn-oo, genitive plural of the third genitive formation. Thus tconkik *star*, tconkik-ăn *stars*, tconkik-ăroo *of the star*, tconkik-ăn-ăroo *of the stars*.

8. Objective case is expressed by the unmodified noun the same as is the subjective, and there is not even an optional way of expressing or emphasizing the objective. There are only two cases different in formation from the nominative: genitive and instrumental. The genitive has three formations; the instrumental differs from the genitive only in the second genitive formation and is used only with the passive. Some of the postpositions are written suffixed to the genitive of the noun, some suffixed directly to the noun.

First genitive: -ăroo. This is the formation after a noun base ending in k t tc ts n p m. Sometimes there is contraction at the end of the noun base: metcerk-ăroo *of the woman*.

Second genitive: -eióo. This is the formation after a noun base ending in χ x N d tc s r l w. With a few bases this formation of genitive appears as -ioo- -odeioo, or -uioo. Thus task-ioo *of the hair*; iy-i-nik *in sin*. All the numerous deverbal nouns in -ssăk form this kind of genitive, the formation being -ssăreioo. Thus tci, ssăk *being*, has tci-ssăreioo *of the being*. It is said that all possessional nouns form a genitive in -ayoo; notice that this spelling is a little divergent from that given above.

Third genitive: Nouns ending in a vowel regularly have the genitive in -Noo. koχ *horse*, which used to be, or at least to alternate with *kol *horse*, and which must have come ultimately or through some other language from Spanish caballo, horse, has its genitive in -uNoo—as if preserving in u a

trace of the final vowel of the Spanish word: kol-uNoo *of the horse*. This is the only genitive formation which has the plural sign, -än, thrust into its midst: tcelu-N-än-oo *of the falcons* (tcelu *falcon*).

The instrumental case is merely the genitive except that the genitive of second formation appears as the instrumental in the form -enoo instead of as -eioo, n taking the place of i. The instrumental is used only with the passive of the verb and is found with nouns both of inanimate and of animate meaning. With this instrumental one should compare the third genitive, which is in -Noo, reminding one of -en.

In actual usage, the final oo of the genitives is mostly omitted, or elided. Thus one says ooχ-är-nik *in the fire*, not *ooχ-äroo-nik (ooχ *fire*).

9. Most Indian languages say *knife its handle*, and a few say redundantly *knife its own-handle, knife its possessed-handle*. But Yunka does not say any of these. In Yunka there are no affixes of personal possession. One can say in Yunka *knife its own-handle*, making the *its* unduly prominent by employing the genitive of the independent personal pronoun, but the common way to speak is merely to say *knife own-handle*, leaving *its* to be understood. Thus ef-en yipke-meinY *I am being called to by own-father*, meaning naturally *by my father*.

In Yunka most nouns have only one form, and if the noun is habitually possessed according to meaning, it is to be regarded as a habitually possessed noun. Thus eN *mother*, has only one form. But the Yunka word for father has two forms: efkik, non-possessed, and ef *own-father*. Thus tcoχe ef *the boy's own-father*.

Reference sometimes requires that the genitive of the independent personal pronoun be used: mäinY tcankäde koχäd *my brother's horse*, where to omit the first word would debar clarity.

Although only a comparatively small number of nouns have a special or separate possessed form, this form is obtained by suffixing -äss, or -ss, or -ad, -äd, -ä, or -r replacing -k or -äN ∼-ik, -eN∼-kik, or -a ∼-kik.

Nouns in -päk, agentive, regularly change this to -päkäss, often syncopated to -pkäss; fanu *dog*, fanu-ss *own-dog, pet*; yaiy *gold*, yaiy-ad *own-gold*; maN *corn*, maN-ä *own corn*; ton-ik *leg*, ton-äN *own-leg*; pol-kik *heart*, pol-äN *own-heart*; med-kik *ear*, med-eN *own ear*; mätc-kik *hand*, mätc-a *own-hand*. So also, zero replaces -ik, -kik respectively. Thus siek-ik *lord, ruler*, siek *own-lord*; fon-kik *nose*, fon *own-nose*; χutc-kik *eye*, χotc *own-eye*; yon-kik (written by Carrera clYonkik) *food*, yon *own-food*.

10. The late Jespersen referred to the adjective in English as "that other kind of a noun, which we call an adjective." The Yunka adjective is a full fledged noun emasculated of everything except general quality designation. I say general quality designation because Yunka as regards quality designation distinguishes between general and specific, for instance between white and whiteness.

According to form, the adjective is a noun and precedes in position the noun with which it is congruent. The adjective rarely happens to have completely the form of a noun. Thus kuχ *blood*; *red*. The adjective also rarely shows derivative forms. Thus oχ-o *fiery* (oχ *fire*, also recorded as ooχ). The great bulk of adjectives are monosyllabic and exactly like nouns in form.

An adjective when standing alone is declinable. An adjective when coupled to a noun usually takes upon itself the plural suffix.

In European adjectives there is a comparison of adjectives. Such a comparison can also be rendered into Yunka, but is there more or less forced. It is accomplished in Yunka by the preplacing of more for the comparative, of very, or the like, for the superlative.

The pronoun is noun-like. moinY *I*, mäitc *we*; nYof *us*, tsaN *you*, tsäitc *ye*.

The forms *I* and *we* show modification of the vowel by the consonant which follows. The genitive mäinYoo *of me*, usually appears clipped to mäinY, differing from the word for *I* only in its vowel. nYof *us*, is the only objective personal pronominal word of the language, and is interesting in being nYofän *man, men*, dragged into the personal pronominal category.

Possessive affixes tantamount to the genitive forms of the above. Thus mäinY ef *my father*; tsäN uiχ *your land*.

There are equational or predicative pronouns. ei-nY *I am*, ei-c *we are*, a-s, ä-s, e-s *you are*, a-stci, ä-stci, e-stci *ye are*, a-N, ä-N, o-N *he is, they are*.

A nasal for the first person singular, a sibilant for the second, reminds one of the word pronouns. The second person plural adds -tci to the second person singular, reminding one of the -tci on certain interjections of command. For the third person, and for the third person only, the singular is made to do also for the plural, and it is interesting that a reduced form of the demonstrative *that* is made to serve as a third person.

The demonstratives differ from *he, they*, in pointing out near or more remote position, in addition to third person. They take the place of the otherwise lacking third person. For example, aio *that*, is found in this function, and aio is the only demonstrative which appears also as a personal pronominal suffix. The demonstratives all have an objective in the singular but none in the plural; in the plural the subjective form also serves as the objective, just as it does in the noun. The demonstratives all have a plural formation in -N-än, reminding one of the universal -än plural of the noun and adjective. The demonstratives refer to three degrees of remoteness, mo *this* (mo-ss objective *this*), mo-N-än *these*; ssio *that* by the addressee (ssio-ss objective *that*), ssio-N-ån *those*; aio *that* (aio-ss objective *that*), aiu-N-än, aio-N-än *those*.

The interrogative pronouns corresponding to the third person singular are: etc *what?* einY *who?* (identical with the word meaning *I am*, but shows i in its genitive: inY-oo *whose?*). The plural of the interrogatives, if there is any, is not contained in the material recorded.

Pronouns, some of them used principally in asking, which carry in meaning quantity designation, but do not refer to definite number as do the numerals, are quantifiers: lYolYek *other*, issäk *all* (singular), ni *no one*, icke *how much?* oc *much*, nYacofk *much*, peilen *little* (in quantity).

The numeral system is decimal and ten is called *one-ten*. onäk, *one* (onk-äroo, gen.): appears reduced to na- in na-poN, na-ssop *ten*; aput *two*: appears as pak in pak poN, pak ssop *twenty*; sopät *three*: appears reduced to sok in sok poN, sok ssop *thirty*; nopät *four*: appears reduced to nok in nok poN, nok ssop *forty*; eymäts (Carrera eclYmats) five.

Yunka postpositions follow genitive form or base form. Rarely the same postposition can be used with both constructions and has a difference in meaning. Thus -pän after the genitive means *for*, but after the bare base means *as*. Postpositions after the genitive are -käpak *on*, -lek *near*, -nik *on, to*, -pän *for*, -ssekän *below*, -turkitc *behind, because of*, -tutäk *in front of*, -χetcäk *above*, -χutcäk *between*. Postpositions after the base are -er *by means of*, -fanaN *during*. -foin *mixed with*, itc *from*, -kapo *having, consisting of*, -len *accompanying*, -män *according to*, -na *through*, -pän *as*, -pir *without*, -tana *accompanying*, -tot *having, against*, -totna *toward*.

11. Classified according to form, verbs are prime or derived. Yunka has as its derivational verbs mostly verbs formed from other verbs. The typical Yunka verb is prime, monosyllabic, and has the structure CV or CVC. Conspicuous among the derivational verbs in Yunka are the causitives in

-ko, for instance, the verb *to run* has its causative *to make run*.

There are two aspects: the integral and the progressive, not kept apart as regards form in many Yunka verbs. There are two ways of forming the progressive when it is desired to make clear the progressive aspects: -tYäm is added, for example ssiad-atYäm-aN *he is sleeping*; -päk is added, thus aia-päko-iN *I am making, I am accustomed to make*.

The tenses are present, past and future. For the past, -piN is suffixed, sometimes -top. For the future ka is postplaced. Another future is formed by prefixing tiN-

The indicative includes not only the various tenses, but also the dubitative in -ma, the obligatory formed by postplacement of tcäm, the imaginative which employes the suffix -daiN, and the imperative with suffix -an.

The infinitive is really a derived noun and can be formed only from certain verbs, for instance tem-ad *to love*, from the base tem *to love*.

Purpose in a verb is expressed by suffixing -näm *in order to*.

The present participle is formed by adding -päk, -apäk, -epäk. Thus aia-päk *creator*. Inanimate participles are marked by -ssäk, -essäk, -läk, -eläk. Thus nYopissäk *arrival*; aia-läk *deed, manner*; temessäk tem-eläk *loving, if one loves*.

The applicative suffixes, -äk and -ek follow immediately after the verb base. Thus yat-ek-einY, *I cut for someone*.

The passive is formed by adding -em after some verb bases, -är after other verb bases. Thus yipk-em-einY *I am called;* tem-är-einY *I am loved*. The past passive participle is in -do, -edo. Thus ef-en aka-do *seen by the father*.

In addition to -ssäk, given above, a conditional clause can be introduced by ssie, ap, or am.

The Yunka language practises a double negative: änta comes before the negativized verb and esta after it. Thus änta fe esta *it is not*. There is also a construction brought about by suffixing -uno or -unta to a verb base. Thus met-uno *not bringing, without bringing*.

The adverb is an independent word which may also be derived by suffix -na.

A connected sentence is sometimes led off with a conjunctional adverb, as assän *lest*. Or a prominent word in the connected sentence may suffix -ssän *also*, or -cain *but*.

The interjection on the whole has characteristics of the verb rather than of the noun. The Yunka interjection has a fourfold division into emotionals; imitationals; ejaculations; and infantiles. The third class includes cusswords, verb imperatives, and noun vocatives used as exclamations; among these one should notice an ending -tci, -tc (muk-tci *take it*, ani-tc *look*).

There is one important syntactic point to be mentioned here, and that is word order. Yunka has the order: sov (subject-object-verb), also svo (subject-verb-object). The Yunka adjective precedes the noun, the postposition follows the noun.

HUICHOL PHONEMES

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1. Introduction
2. Formation of phonemes
3. Distribution of phonemes

1. The Huichol language is a member of the Uto-Aztecan family of Indian languages of which Yaqui, Mayo, Tepehuan, Cora, Tepecano, and Aztec are also members. The Huichols call themselves Wizarika or Wizaritari. We have not yet learned the meaning of these names. Huichol is undoubtedly the Spanish rendition of their name. They call their language Tewi Niukiyari which means, *The Words of the People.*

This description is based on material gathered from several informants in the small Huichol village of La Piedra Gorda which is situated about fifty miles east of Tepic, Nayarit, Mexico. The research was carried on under the auspices of the Summer Institute of Linguistics during several field trips from 1941 to 1943. Most of the informant work was done with Pilar and Reyes Aguilar who are about 18 and 14 years of age respectively and with an old Shaman, Cruz de La Rosa, who is about 75 years of age. Other informants were used, however, from time to time with whom the material was checked.

The Huichol language is spoken by approximately four thousand Indians who are sparsely settled over the eastern half of the state of Nayarit, Mexico, and over the arm of Jalisco which extends northward along the eastern border of Nayarit.

I wish to express my appreciation for the instruction, criticism and other help received from Kenneth L. Pike as well as from other members of the Summer Institute of Linguistics.

2. The Huichol language has fifteen consonant phonemes p, t, c, č, k, kw, ʔ, h, z, m, n, l, r, w, y which are nonsyllabics; and five vowel phonemes i, ʌ, u, e, a which are syllabics. Stress ′ is a suprasegmental phoneme.

There is a series of voiceless unaspirated stops at bilabial, dental, velar, labialized velar and glottal points of articulation, with affricates at alveolar and alveopalatal points of articulation. These are p, t, k, k^w, ʔ, c, č as seen in pizΛ′zΛi *chick*, tai *fire*, ne′ki *my house*, ′ʔik$^w\Lambda$i *food*, nemu′ʔu *my head*, ′ʔeci pukuri′ʔΛa *it smells bad*, and ′ʔeči pu′tewi *he is short.* The velar stop k is palatalized when occurring before the mid front vowel e as seen in neke′mací [nek^{Y}e′-maci] *my father* and neke′ṭa [nek^{Y}e′ta] *my foot.* When the alveolar affricate c occurs in clusters, it is varied to the alveolar grooved fricative [s] as in nemacta′zeiya [nemasta′-zeiya] *I will see you.*

h is a voiceless lenis glottal spirant as seen in ha *water* and waha′panatΛ *pulling them.* The friction of this phoneme is very light; with some informants it tends to be omitted entirely but when omitted, a more complicated system of vowel clusters results.[1]

z is a voiced backed alveolar grooved spirant, somewhat retroflex. The voicing is light and phrase initial; the unvoiced variant[2] is used as in zuci *squash* and zi′meri *morning.*

m and n are voiced nasals with bilabial

[1] When the h phoneme is omitted by some informants, vowel clusters with as many as three or four vowels can occur as in ke.pe.ti.(h)e.i.nΛ *how did you dream?* and pe.Λ.(h)Λ.a.wi.mΛ.kΛ *he wants to speak.*

[2] z is varied to a nonretroflex voiceless variant by children and by adults talking baby talk and also in songs as in pizΛ′zΛi [pisΛ′sΛi] *chick.*

and alveolar points of articulation respectively as in maza *deer* and neni'nuani *I came*.

l is a voiced lateral with alveolar apical articulation as in ʔaʔuka'lai *your wife* and ya'leʌte'witʌ *in a little while*.[3]

r is a voiced retroflex alveolar flap[4] as seen in ʔuka'raci *old woman*, re'tʌa *he went*, and ʔʌ'rʌ *arrow*.

w is a voiced nonsyllabic vocoid with rounded bilabial articulation as a norm. This member of the phoneme occurs before the low central vowel a as in wa'ki *their house*, and is conditionally varied to a voiced bilabial fricative with unrounded lip articulation [β] when occurring before the high central and mid front vowels ʌ and e as in ʔeʌka'wʌtʌ *hanging* and puwe'wiya *it is made*. When this phoneme occurs before the high front vowel i in word initial position, the nonsyllabic voiced vocoid is generally used, while with certain words the two variants are used optionally as in wi'rʌkʌ *buzzard* and wi'zarika *Huichol*. Word medially preceding i, the voiced bilabial fricative is always used.

y is a voiced palatal nonsyllabic vocoid as seen in ya *tobacco* and 'maye *lion*.

i is a high front close unrounded vowel as in ki *house*.

ʌ is a high central close unrounded vowel as in tʌ *coals*, ʔʌ'ka *leg*, 'tʌka *night*, pe'tʌa *he went*.

u is a high back close rounded vowel as in ku *snake*, tu'nu *knee*, ʔu'ka *woman*, 'tuka *day*.

e is a mid front open unrounded vowel as in te'te *rock*, pahe'te *it is heavy*, and te *hail*.

a is a low central open unrounded vowel as in ha *water*, ne'puha'ʔa *I am angry*, and ʔa'nate *wings*. Word finally as the final member of a vowel cluster, this phoneme is less open, as in pe'tʌa *he went*.

There is an occasional nonphonemic unvoicing of the high front, the high central and the mid front vowels i, ʌ, and e when they occur phrase final.

There is an occasional nonphonemic nasalization of the three high vowels i, ʌ, and u when they occur following the nasal consonants m, and n as in mu'ʔu *head*, nepeuha'kamʌkʌ *I am hungry*, and neni'nuani *I came*.

Stress is phonemic. Note the word pairs: 'tuka *day*, tu'ka *spider*; 'ʔaki *rib* and ʔa'ki *your house*; pʌ'waki *it is dry* and pʌwa'ki *it is their house*.

The majority of the words, but by no means all of them, have the last stress in the word on the penult. Other stresses in the word seem to be based on the morpheme, certain of which are generally stressed while others are seldom or never stressed. If a morpheme which is not usually stressed occurs as the penult of the word, the final syllable is usually stressed.

3. The syllable in Huichol consists of a vowel (the syllabic) alone, or a vowel preceded by a consonant or a cluster of two consonants, or a vowel followed by a consonant or preceded and followed by a consonant. The following are the possible combinations:

(Syllable divisions will be indicated by a low dot.)

V	pu.'nu.a *he came*
CV	ne.'ki *my house*
CCV	pti.'u.kʷa.i *he ate*
VC	ma.ci.ʔu.ze.ic.tʌ.a *he showed it to you*
CVC	pep.'ta.kʷi.'ka *you will sing*

The combinations CV, CCV, and CVC appear word initial and of these CCV does not appear elsewhere. The others may occur word medial. V, and CV are the only ones occurring word final.

At this point in the investigation, there

[3] The voiced alveolar lateral l is a specialized symbolic phoneme, stylistically altering with r- in words of endearment or diminutives. See also note 4.

[4] The alveolar flap r is varied by children to the alveolar lateral l and is varied to the same phoneme by adults in songs and when they talk baby talk as in wi'rʌkʌ [wi'lʌkʌ] *buzzard*.

is still some uncertainty as to the size of morphemes, particularly in those which go to make up stems. Morphemes tend to be of one syllable, but two morphemes may occasionally be found within one syllable and also morphemes have been observed which include two syllables. A morpheme, then, may be composed of a single vowel, a single consonant, a consonant followed by one vowel, or a consonant followed by two vowels. This gives the following morpheme pattern: (Hyphens indicate morpheme divisions.)

V	ta-i *fire*, ta-u *sun*
C	p-ti-'u-kʷai *he ate*
CV	te-'te *rock*
CCV	te-p-i-zei *we saw it*

A word may be composed of one morpheme of one syllable or of as many as a dozen or more morphemes divided into as many syllables. Compare the word tʌ *coals* with ne-pʌ-ka-'ma-ci-ʔa-na-ka-wi-tʌ-ni-'ke-yu *I would not like to lead you down.* In this particular example, the morpheme boundaries coincide with the syllable boundaries but this is not always true. The second word given above has thirteen morphemes, the meanings of which are as follows: ne- first person singular pronominal prefix, subject; pʌ- mode indicator, roughly indicative; ka- negative; ma- second person singular object pronominal prefix; ci- morpheme showing type of action object receives; ʔa- functional morpheme showing movement, necessarily present before adding directional morpheme; na- functional morpheme which always occurs when used, showing a change in position, or reversal of direction; ka- directional morpheme indicating *down;* wi stem formative; tʌ root of verb *bring* or *take*; witʌ stem meaning *to bring* or *take a person*; -ni future; -ke to be about to; -yu a type of desiderative when used with -ke.

All of the single syllabics occur following all of the nonsyllabics in the syllable with the following exceptions: ʌ and u do not follow kʷ; u does not follow w; only i follows č; i does not follow y; l occurs only before e and a. Examples: 'kʷitʌ *quickly*, 'kʷeci *father* (says a girl), 'kʷaca *crow*; wi'ki *bird*, nepente'wʌpa *I will close* (mouth), we'rika *hawk*, and wa'tapai *over there*; 'wiči pʌ'ʔane *it is pretty*, 'ʔeči pu'tewi *he is short*; pʌka'-yʌne *he doesn't want to*, yu'rikʌ *truly*, ke'naye'ʔa *come here*, zei'ya *quickly.*; ya'-leʌte'witʌ *in a little while* and ʔuka'lai *wife.*

All of the syllabics function as complete syllables when they occur as the final element of a vowel cluster as in ne.'te.i *my aunt*, ke.'pa.ʌ.kʷa *when?*, 'ta.u *sun*, nep.-'ta.we.wi.'e.ni *I will make it*, ya.'a.wi *coyote.*

The only syllabics which occur preceding nonsyllabics in the syllable are i, e, and a, the nonsyllabics which they precede being limited to p, m, n, and c. i does not occur preceding p, m, and n. Examples: ne.pi.-'ze.ic.tʌ.a *I showed it to him*, pep.'tʌ.zʌ *you are grinding*, tem.'ti.we.wi.'e.ni *we will make it*, kap.ti.'u.ka.'ze.i *whether there was or not*, ne.'pen.tʌ.ni *I will take it away*, pan.ti.ye.'rʌ.ni *he will mount* (horse), zʌka pe.'nec.ta.'ze.i.ya *if you find me*, ne.-'mac.ta.kʷa.ni *I will eat you.*

The four syllabics i, u, e, and a appear as morphemes. There is still some doubt as to whether the syllabic ʌ occurs alone as a morpheme but further study may reveal that it also functions as a morpheme. All of the syllabics occur in morpheme final position. Examples: 'p-i-mi *he killed him*, 'p-u-mi *he killed*, 'p-e-n-tʌ-'ni *he will take it away* and p-a-'mie *he comes.*

All five syllabics i, ʌ, u, e, and a may appear phrase and word medial and final as seen in pi'nizi *watermelon*, tʌ'ri *small* or *offspring*, te'pʌ *flea*, tu'nu *knee*, te'te *rock* and ma'ta *metate.* Syllabics do not occur word or phrase initial. All single syllabics occur in both stressed and unstressed syllables. See above illustrations.

There have been observed some nineteen clusters of syllabics. Since every syllabic is the center of a syllable, all of these

clusters are ambisyllabic. Certain of the clusters occur with stress on the first element while others may occur with either element stressed. The following is a chart of the syllabic clusters thus far recorded:

	i	ʌ	u	e	a
i	i.i	i.ʌ	i.u	i.a	
ʌ	ʌ.i	ʌ.ʌ			ʌ.a
u	u.i		u.u		u.a
e	e.i	e.ʌ	e.u	e.e	e.a
a	a.i	a.ʌ	a.u		a.a

Examples:

i.i hi.'i.kʌ *today*
i.ʌ pʌ.mʌ.ni.'ʌ *he died, they say*
i.u ni.'u.ki *word*
i.e ne.pʌ.'re.ʌ.ye.pi.'e.ni *I will open it*
ne.pe.u.'mi.e.ni *I will go*
ʌ.i ne.pe.u.ʔʌ.'i.mi.e *I will go to bring it*
pe.'ʔʌi *he took it*
ʌ.ʌ tʌ.'ʌ.kʌ *gnat*
ʌ.a ha.i.'ka.kʌ.a *three times*
u.i ni.'yu.i.ni *it is raw*
pi.tu.'i.ri *he sold it to him*
u.u hu.'u.na *gnat*
u.a nep.'ta.yu.'a.ni *I will start* (move)
e.i nep.ti.'u.ka.'ne.i *I danced*
e.ʌ 'pe.ʌ.ha.ri.'mʌ.kʌ *he is thirsty*
e.u tep.'te.u.'kʷa.i.yu *we will go to eat*
e.e kʌ.ye.'e.te *sticks*
e.a zep.'te.a.ʔi.'wa.zʌ *you* (pl.) *won*
a.i ke.'pa.i.kʌ *who?*
a.ʌ 'ke.pa.ʌ *how, how many*
a.u 'ta.u *sun*
a.a ya.'a.wi *coyote*

All of the nonsyllabics occur syllable initial. There are four nonsyllabics p, m, n, and c which occur syllable final in the initial and medial syllables of the word as seen in nep.'ti.ti.ʔu.'ki.tʌ.a.ni *I will teach it to him*, pem.ta.'na.u.ca *you will run*, pe.pen.'nʌ.ʔa.ni *you will send him* and mac.-'ta.kʷa.ni *he will eat you.*

There are four nonsyllabic phonemes which function alone as morphemes.[5] They are p, m, n, and c as seen in p-ti-'ʔie-ni *he will drink*, m-ti-'ʔie-ni *he who will drink*, p-a-n-ye-'tʌ-a *he passed* and ma-c-ta-'zei-ya *he will find you.*

All of the nonsyllabics occur morpheme initial. There are no medial nor final nonsyllabics within the morpheme.

All phrases and words in Huichol have a nonsyllabic phoneme or a nonsyllabic cluster in word initial position as in 'pumi *he killed* and pti'ukʷai *he ate.*

All of the nonsyllabic phonemes occur phrase and word initial and medial except the alveopalatal affricate č and the alveolar lateral l which do not occur phrase or word initial. The glottal stop ʔ is the only nonsyllabic observed in phrase or word final position and that in one construction kaukacʌ rekʷa'ʔaʔ *possibly he is eating.*

All of the nonsyllabics appear preceding the five single syllabics with the following exceptions; č occurs only preceding i ; y occurs preceding all five syllabics except i; kʷ does not precede ʌ and u; l precedes only e and a.

The following is a chart of all nonsyllabic clusters which have been observed.[6] Of those listed, there are five clusters pt, mt, nt, ny, and ct which occur often while the rest are comparatively rare combinations.

stop plus stop	nasal plus stop	nasal plus fricative or glide	nasal affricate plus nasal	nasal affricate plus stop
pt	mp	mw	mm	ct
pk	mt	nz	mn	
pkʷ	nt	ny	nn	
pc				

[5] All of the morphemes which are composed of a single consonant are alternate forms of morphemes of CV pattern. A vowel has been lost and in the case of c, a submember [s] of the phoneme is used. Examples: ne÷pʌ÷'ta÷nʌ÷'ni becomes [ne-p÷'ta÷nʌ÷'ni] *I will finish* and ne÷'ma÷ci÷ti÷tu.i÷ri.'e÷ni becomes [ne÷ma-s÷ti-tu.i÷'ri.e÷ni] *I will sell it to you.*

[6] All of the nonsyllabic clusters are the result of the loss of a vowel in a syllable. Thus the theoretical pattern of Huichol is V and CV as illustrated in note 5.

The nonsyllabic clusters which occur within the syllable occur only in phrase and word initial position and are themselves the initial elements of open syllables. Word medial there are no nonsyllabic clusters within the syllable but all are ambisyllabic.

In every occurrence of a nonsyllabic cluster, the first consonant phoneme functions as a morpheme and is followed by the first consonant of the following morpheme as in p-ti-'u-mi *he killed it.*

The nonsyllabic clusters pt, pk, pkʷ, mt, mw, mn occur word initial as seen in 'pti?uzima'yata *he is working,* pkati 'ukʷai *he did not eat,* wai pkʷani *he will eat meat,* 'mtite'ruwa *he who is reading,* mwa'zeiya *he who sees them,* and 'mneci?anuku'weiya *he who is following me.*

All of the nonsyllabic clusters occur word medially, and there are no word final clusters. Examples: nep.ti'neti?u'kiʌani *I will learn,* nep.'kati'?uni *I will not shell corn,* mep.kʷa'ni *they will eat* (one thing), nep.-cu'me *I have a cold,* ?em.'pa *large,* kepem.-'taciyuri'eneni *what are you going to do to us?,* ze'pan.tima'make *you* (pl.) *will climb up,* pem.waru'zei *you who saw them,* pen.'zite *he cut it,* pan'tʌa *he came from,* pem'mini *you will give,* pem. 'neci?u'zei *you who saw me,* ne'maci?an.'nʌ?ani *I will send you,* and ne'mac.ti?i'pʌcieni *I will heal you.*

The distribution of the nonsyllabic clusters is quite limited in that only pt and pk have been observed in phrase initial position and there are no phrase final clusters. All appear phrase medial.

TÊTE-DE-BOULE CREE

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Data gathered among the Têtes de Boule of the upper St. Maurice River in Québec province by the writer in 1925 and 1926, and added to in later visits, made possible the definitive identification of Tête de Boule as a Cree dialect. While the identification was recorded in 1928 (Cooper, 1928a, 459–60; 1928b, 206–7), the supporting evidence therefor has, except for fragments (Michelson, 1933; 1939 passim), remained unpublished. The purpose of the present brief communication is to set down the more significant of this supporting evidence and to call attention to certain features of the Tête-de-Boule dialect which may be of interest to Algonquinists.

Before taking up the evidence, a few words may be premised on transcription. In many or even most cases where an aspirate would on historical grounds be expected, especially before *k*, *p*, *t*, and *ts*, it is either lacking in current speech or else is so weak that it escapes my ear. Thus, for example, the aspirate in Tête de Boule is sometimes very clear, as in pimuhtew *he walks*, but is seemingly absent before t in wabatam *he sees it*. Watkins, who was quite sensitive to the Cree aspirate, earlier recorded (1865, xxi): "The aspirate is not uniformly observed [in Cree]. Some persons use it more frequently than others, and in particular localities it is more extensively employed than elsewhere". Personally I have heard and recorded it a good deal more consistently among the Moose Factory and Albany Cree of James Bay than among the Têtes de Boule. Also, in certain verbal suffixes where -awo- or -iyi- would be expected, I hear -ao- or -i-. In all cases speech utterances are in the present paper transcribed as heard, not as expected.

The following abbreviations will be used: TB, Tête de Boule; C, Cree; A, Algonkin; O, Otcipwe; AO, Algonkin (-Otcipwe); M, Montagnais; PCA, Primitive Central Algonquian.

Our main evidence that TB is a C dialect is drawn, in accordance with Michelson's criteria (1912), from the pronominal forms of the verb and from certain phonetic phenomena. In these features TB conforms, with rare exceptions to be noted, with the C of Lacombe, Howse, Horden, Watkins, Faries, Michelson and Bloomfield, and differs, where C differs, from the AO of Lemoine, Cuoq, Baraga and Verwyst, from the M of Lemoine and Sirois, and, so far as known to me, from other Algonquian languages.

First the verb. Following are the paradigms of the TB verb, present tense, independent and subjunctive modes.

	Mode	
Intransitive	Independent	Subjunctive
I	ni -n	-(i)an
we excl	ni -nan	-(i)ak
we incl	ki -nanu	-(i)uk
thou	ki -n	-in, -iyin, -en
ye	ki -nawaw	-yek
he	-o (-w)	-tc, rarely -t
they an	-wuk	-tcik
it	-n	-k
they inan	-nwa, -na	-ki, commonly -k

Transitive	Independent	Subjunctive
Animate object		
I-him	ni -aw	-ak
thou-him	ki -aw	-atc, rarely -at
I-them	ni -awuk	-akwaw (-akik?)
thou-them	ki -awuk	-atcik
we excl-him	ni -anan	-akitc
we excl-them	ni -ananik	-akitcik
we incl-him	ki -anu	-uk
we incl-them	ki -ananik	-akuk, -akwuk
ye-him	ki -ao	-ak
ye-them	ki -awuk	-akuk
he-him, them	-ew	-atc
they-him, them	-ewuk	-atcik
I-thee	ki -tin	-tan
I-you	ki -tinawa	-takuk, -takwuk
we excl-thee	ki -tinan	-tak
we excl-you	ki -tinan	-tak
thou-me	ki -in	-in
thou-us excl	ki -inan	-iak
ye-me	ki -inawaw	-iyeak
ye-us excl	ki -inan	-iyak
he-me	ni -k	-itc
they-me	ni -kwuk, -kuk	-itcik
he-us excl	ni -konan	-iyamitc
they-us excl	ni -konanik	-eyumitcik
he-us incl	ki -konaw	-tuk
they-us incl	ki -konawuk	-takuk
he-thee	ki -k	-sk
they-thee	ki -kwuk	-skik
he-you	ki -kowaw	-tak
they-you	ki -kowawuk	-takuk
Inanimate object		
I-it, them	ni -en	-aman
we excl-it, them	ni -enan	-amak
we incl-it, them	ki -enanu	-amuk
thou-it, them	ki -en	-aman
ye-it, them	ki -enao	-ameak
he-it, them	-am	-ak
they-it, them	-amuk	-akik

I have not complete paradigms of: (a) the intransitive forms, ni -inin, -in, as in TB ni pimicinin *I am lying down*, pimicin *he is lying down*, and ni -en, -am, as in TB ni mamitoneriten *I am thinking hard*, mamitoneritam *he is thinking hard*; (b) the transitive inanimate, ni -an, -aw, as in TB ni petan *I am bringing it*, petaw *he is bringing it*; (c) the three dependent modes corresponding respectively to Horden's future subjunctive, as in TB kiepin micigate *if he shall arrive* (by canoe), to Horden's dubitative present with vocalic change, as in TB mecigagwe *if he is* (now) *arriving*, iakosigwe *if he is sick*, and to Lacombe's *éventuel* with vocalic change, as in TB tatwaw e mecigatce

whenever (as often as, every time) *he arrives*, tatwaw e sekasatce *whenever he smokes*. Those, however, of the TB forms which have been obtained agree fully with C.

In the above subjunctive endings in -tc, TB agrees more with Lemoine's A than with C, possibly but not necessarily as a result of borrowing from A. The corresponding C subjunctive endings in -t are exceptionally used by TB speakers, but under what rule if any I cannot say.

The only other divergence from C in the TB verb, so far as I know, is in the imperative present. Thus, -ci *thou-me*!, as in TB widjihici *help thou me*!, kanowabamici *look thou carefully at me*! (C -in, AO -cin, Montagnais -i -u, -sh); also TB -cinan *thou-us*! (C -inan, AO -cinan), and TB -cik (-ciuk) *ye-me*! (C -ik, AO -cik).

The negative of the independent and subordinate modes is formed in TB by nima, occasionally nama, before the verb; never by the OA kawin -si (-si-, -nsi, -nsi-).

The nominative plural of TB inanimate substantives is formed, as in C, by suffixing -a to the singular (AO -n, M -ts or more commonly stress); thus TB tciman *canoe*, tcimana *canoes*. The TB locative ending is in -k (-hk?), as in C (AO -ng, M -ts); the diminutive in -c (C -s, -sis, AO -s, -ns, M -c).

As regards phonetic correspondences, TB consistently agrees with C, differing from AO where C so differs. The following TB words are given in illustration; for correspondences and C and O illustrative material, see Bloomfield (1925):

PCA xp, C sp, AO hp: TB ospwagan *pipe*

PCA xk, C sk, AO hk: TB ickweo *woman*, oskat *his leg*, wabuskwa *polar bear*, amisk(wa) *beaver*

PCA çk, C hk, AO ck: TB mikwaw *it is red*, ākik^{wa} *seal* (Cree of Watkins *ahkik*; A, O *askik*; this gives one further example of Proto-Algonquian çk, cf. Geary, 1941)

PCA 't, C st, AO ht: TB nictam *first*

PCA 'l, C hy (hr), AO s: TB arapi *net*

PCA nasal (n, m) before t, k, s, p, preserved in AO and appearing as h (disappearing before s) in C: TB sesegatuk *black spruce*, pitike *come thou in*!, mahikan *wolf*, mus *moose*; presumably also before p in TB but I have no example in my notes

PCA *θ*, C t, AO n: TB atim *dog*, atukus, at^{c}ukus *little star*

PCA h*θ*, C ht, AO s: TB notawi *my father*

On the other hand TB consistently agrees with C where the latter differs from M (cf. Michelson, 1912, 247). Thus TB kir *thou* (M tshi), ogimaw *chief* (M utshimau), abicigiockwic *common tern*, kiock^{ws} *herring gull* (M tshiashk), -k anim. pl. of substantives (M -ts), oskijuk *his eye* (M ussijuk), aski *'land'* (M assi).

So much for the evidence that TB is a C dialect. We now turn to certain features more or less peculiar to TB.

TB is an r dialect of C,—PCA l having been replaced by r. Thus TB iriniw *man*, birecic *bird*, kir *thou*. Some, however, of the present-day Têtes de Boule use l instead of the predominant r. Thus bilecic *bird*, aligi *frog*, wapilio *ptarmigan*, pilio *grouse*, lego *sand*, oleolagan *dish used in first menses observance*. On a couple of occasions I have heard n used instead of r, in the two words binecic *bird* and monisiwin *twitch omen* (I have heard molisiwin from Moose Factory Cree, and mu(y)isiwin from Rupert House, Eastmain and Fort George Montagnais).

The two n words may reflect Algonkin influence. As to the l element, Father J. E. Guinard, O.M.I., who speaks TB fluently and who labored among the Têtes de Boule for a great many years, thinks that this element may have been introduced by Hudson's Bay Company employes, white, Indian or both, who came from James Bay many years ago to the Megiskan HBC post (closed about 1890) which used to serve some of the westernmost Têtes de Boule. Actually most of the modern Têtes de Boule who use l

hail or hailed from the Megiskan area. In fact I was told by two elderly Têtes de Boule, François Tcatca and his wife Marie, both intelligent and dependable informants, who came from the Megiskan region and who use l, that the Megiskan sub-dialect (of which more later) of TB regularly used l.

The TB independent personal pronouns are: nin *I* (never nina, nir, or nira), kir *thou*, wir *he, she* (some use kira and wira), ninan *we excl*, kiranu *we incl*, kirawaw *ye*, wirawaw *they*. Possible borrowing from A-O is suggested by nin and ninan.

The TB cardinal numbers are: peyok *one*, niju (j = [ǯ]) *two*, nictu *three*, neo *four*, niaran *five*, nigudaso *six*, nijwaso, nijwas *seven*, nicwaso *eight*, tcagidatu *nine*, midatu *ten*, midatu acits peyok *eleven*, midatu acits niju *twelve*, etc., nijidana *twenty*, nictumadana *thirty*, nemadana *forty*, etc., midatu midana 100, kije midatu midana 1,000.

The TB kinship terms are: notawi *my father* (voc. ntata!), nikawi *my mother* (voc. nitcutcu!), ni nigihiguk *my parents*, nimucum *my grandfather*, nukum, nokum *my grandmother*, nimicumec, nimicomec *my father's or mother's brother*, nitos *my father's or mother's sister*, nikwosis, nikosis, *my son*, nitanis *my daughter*, ninidjanic *my child* (son or daughter), nocim, nosim, *grandchild, great grandchild* (male or female), nistes *my elder brother*, nimis *my elder sister*, nicim *my younger brother or sister*, kawin added to sibling terms to denote *cousin*, ninabem *my husband*, niwic *my wife*, nisis *my father-in-law*, nisikus *my mother-in-law*, ninahakcim *my son-in-law*, ninahaganiskwem *my daughter-in-law*, nictao *my sibling-in-law of the same sex* (m. or w. s.), nitim *my sibling-in-law of the opposite sex* (m. or w. s.) (*sibling-in-law* in both cases = spouse's sibling or sibling's spouse). Nicimkawin was given me as the only term for *nephew, niece*, but the point needs further checking. There is no distinction in terminology between parallel and cross cousins. In general TB kinship terminology is relatively simple compared with that of the Plains Cree and even of the James Bay Cree.

Baby talk is little used. Only three words could be discovered: gwa gwa! *drink*, na na! *eat*!, tcacic *toy, plaything*.

A locative in -ki instead of the usual -k was recorded for only two TB words, icpemiki *up above* and notcemiki *in the woods*, and even for these two as used only exceptionally. On the other hand the final -i of the intransitive subjunctive inanimate plural in -ki is commonly dropped in current conversation. *All* in TB is kaskina, sometimes kiskina. Michelson (1939, 78-79) considered the TB locative in –ki as archaic, and kaskina as a fusion of two words.

Postconsonantal -wa (*-wa), more commonly heard as a weak whisper, occurs in some TB words of other than two syllables, where in other C dialects it is lost (Bloomfield, 1925, 138). Thus TB wabuskwa, wabusk^{wa} *polar bear*, amiskwa *beaver*, atik^{wa} *caribou*, aruk^{wa} *olive-backed thrush*, nikik^{wa} *otter*, akik^{wa} *seal*. In some cases postconsonantal -wa appears as whispered -u. Thus TB watchusk^{u} *muskrat*, amisk^{u} *beaver* (as pronounced by some), kinebik^{u} *snake*, atcak^{u} *soul*, mikwocegwak^{u} *red pine tree*.

New words are readily coined for new things. My dynamometer got, within a few hours, the name of magonigan *instrument for pressing, squeezing, taking hold of*.

Initial syllables in certain words are habitually dropped: thus TB ctemaw *tobacco* (for C tcictemaw), skude (for C iskude). Initial pi- is at times either dropped or else expressed as ^{p}; thus TB ^{p}muhtew (for pimuhtew) *he walks*, ^{p}mipatew (for pimipatew *he runs*); mite or ^{p}mite (for pimite) *grease*, tutucamite *butter*, milionikwudjac (for pimilionikwudjac -l- variant, *flying squirrel*.

In certain words i is often heard as ^{i}u, as in ask^{i}uk *pail* for askik, as^{i}uk *American merganser* for asik, nik^{i}uk *otter* for nikik. The phoneme s varies commonly toward [š], and t sometimes toward tc. In the

final diphthongs, -aw, -ew, -iw, the second element is often syllabic, or else there is fairly balanced stress (cf. Bloomfield, 1930, 4,—in fact much more of what he records regarding Plains Cree, pp. 3–7, holds true for TB, such as the variance of ă toward the vowel in English but, of ā toward aw in awl, of o toward u in put).

A certain very limited number of lexical borrowings from A or AO appear in TB. Thus TB mikenak *turtle*, waguc *fox* (used by central or Wemohtaci band, not by northern or Obidjewan band), nin *I*, ninan *we excl*, monisiwin *twitch omen*, perhaps the use of acitc in cardinal numbers beyond 10 (see supra). One morphological feature, the subjunctive ending -tc, may possibly be due to A influence. The common TB salutation is kwe kwe, as in A and M. Modern TB wakwek *in Heaven*, with AO stem and TB locative ending, must be of missionary introduction. All in all, while some A and M elements have found their way into TB, they represent a very small and relatively unimportant part thereof. TB should certainly not be thought of as a hybrid tongue. It is overwhelmingly and unmistakably Cree, with only slight borrowings from without.

Subdialectic differences within TB are relatively insignificant. All subdialectic TB groups converse together without the least difficulty; although Têtes de Boule have great difficulty conversing with Montagnais-speaking Lac-St-Jean, Waswanipi and Mistassini Indians or with Algonkin (-Otcipwe)-speaking Grand Lac Victoria Indians,—about equal difficulty in the two cases, M and AO, from what I can gather. The three sub-bands of the Têtes de Boule, the northern or Obidjewan, the central or Wemohtaci, and the southern or Manuan, each show very slight differences. The Kokokac (Coucoucache) sub-band, always a small group, whose survivors are now fused with the Wemohtaci sub-band, spoke slightly differently, I am told, from the Wemohtaci.

The survivors of the Megiskan sub-band are now part of the Obidjewan sub-band. A good deal of what, before the closure of the Hudson's Bay Company post at Megiskan around 1890, was Megiskan territory, to the west and southwest of the Obidjewan sub-band's habitat, is now occupied by Algonkin (-Otcipwe)-speaking Indians from the Grand Lac Victoria and neighboring region. The differences between Megiskan and Obidjewan TB, so far as I can ascertain from surviving Megiskan Indians, were few and slight.

The use (later and intrusive?) of l instead of r by at least a good many, if not all, Megiskan people was noted above. Nir and niran may have been used instead of nin and ninan by some at Megiskan. The carbinal numbers pegostew *nine*, pegocap *eleven*, nictucap *thirteen*, etc., used at Megiskan differ from TB and agree with Moose Factory C,—perhaps also later and intrusive.

Before bringing the present paper to a close, a few words may be in order regarding the possible relationship of the TB r dialect of C with other Algonquian r dialects or languages of eastern Canada. In earlier days such r dialects or languages were rather common in the region between James Bay and the St. Lawrence River. There were r dialects, not only of Cree, but also of Algonkin and of what was called by contemporary writers Montagnais.

To the west of the modern Têtes de Boule, the nearest Cree-speaking people are those of the Kesagami Lake region, southeast of the Moose Factory Cree and now fused with the latter. That the Kesagami Lake Cree spoke an r dialect—it is now practically extinct, except in the memory of a handful of survivors—was fairly clear from information gathered by the present writer in 1927 at Moose Factory and from the very scanty data given the same year by aged Jane Kustan, a Kesagami-speaker, at Lake Abitibi where she was then living. Fuller, but still very meager data obtained in 1932 and 1933 at Moose Factory from the elder

Smallboys and their son Harvey confirmed the 1927 data (Cooper, 1934, 60). Michelson's map (1939, 72) is quite schematic on the relative locations of the Kesagami and Tête de Boule Cree, whose territories are represented thereon as touching at one point. Actually the two peoples were and are separated by a north-south belt about 200 miles broad, a belt at present occupied by Montagnais-speaking Waswanipi Indians and by Algonkin(-Otcipwe)-speaking Abitibi Indians. Whether these two r dialects of C represent two independently developed sound shifts or an earlier unitary r group which later became geographically split cannot be determined from our evidence, especially in view of the scantiness of our Kesagami data.

The existence of an earlier r dialect of A along the St. Lawrence River is clear from Vimont (JR, 1642–43, **24:** 38–42), Crespieul (1676), Laure (ca 1720–38b) and others.

Other, at least two or three, non-A r dialects in the Québec-Saguenay region are clear from Sagard (1632, 319, Dict., 4–5), Massé (ca 1632), Le Jeune (JR 1634) and Crespieul (1676), from Silvy (1678), Maurice (1740), Coquart (ca 1746–65) and La Brosse (1767), and from Durocher (1856) and Arnaud (APFQ, 1880, n.s. 11: 153). Those of Silvy, Maurice, Coquart and La Brosse, and of Durocher and Arnaud are dialects of M. That (or those) of Sagard, Massé, Le Jeune and Crespieul differs appreciably from M in the direction of C, especially through the use of k (kh in Le Jeune) instead of tc [č] before the front vowels i and e.

In a long minutely documented and closely reasoned footnote Michelson (1939, 90–95) endeavored to prove that kh(i) as used by Le Jeune had the value of tc. Le Jeune's "Montagnais" would in this case have been practically true M. Michelson for his interpretation drew upon 19th and 20th century Algonquian linguistic sources, but not upon 17th and 18th century ones except the JR. A good many of his analyses and inferences are, I believe, patient of other interpretations than his, but it would carry us too far afield to enter here into all the details. A summary, however, of the main lines of evidence, not previously presented by me, for my conclusion that Le Jeune's kh had a value within the k range rather than within the tc range and that Le Jeune's (and his confrères') 17th century "Montagnais" was in that crucial respect closer to modern C than to modern M may be briefly given as follows.

That kh had a value differing perceptibly (to French ears) from k seems clear from the remark of Brébeuf, Le Jeune's confrère and contemporary: "Ils [Hurons] ont vne lettre dont nous n'auons point la pareille, nous l'exprimons par Khi, l'vsage en est common aux Montagnés & Algonquins" (Brébeuf, 1636, JR, **10:** 116).

That however kh had an acoustic value well within the k rather than the tc [č] range seems very probable for the following two reasons.

First, in transcribing "Montagnais," the other 17th century sources up to 1676,—Sagard (1632, 1636), Massé (1632), and Crespieul (Crepieul; 1676),—consistently use k or qu before front vowels i and e, where Le Jeune uses kh, and make no use of kh at all. Thus: Sagard, 1632, Dict., 5, noma quinisitotatin *ie ne t'entends point*, 1866 (1st ed. 1636), 1:334, noma kinisitotatin; Massé, egake kirassien *tu ne seras pas menteur*; Le Jeune, 1634, JR **7:** 156, 166, nama nikhirassin *ie ne mens pas*, khikhirassin *tu as menty*; Crespieul, 1676, nama kiga kirassin *thou shalt not lie*. That k, and especially qu(i) which Sagard equates with k, should be used for the value of tc would be hard to explain; all the more so since other symbols were used by Sagard and the others for tc (see infra).

Further, Crespieul in a parallel column gives the A equivalent of above as: ka [ki?] ga kiraouichkissi *thou shalt not lie* (modern A, kinawick-i *lie*). If k as used by Crespieul for his Montagnais had the value of tc, it should a pari have the same value

for his A; but an A dialect using tc in place of k before front vowels would be a strange anomaly. Finally, Brébeuf (l.c.) equates M and A kh with Huron kh. But Chaumonot (1920, 725), a contemporary and companion of Brébeuf on the Huron missions, states explicitly that in his own transcription of Huron, K, X and Θ are pronounced as in Greek, ch sometimes as in French [š], oftener as the Italian c[č]. Potier (1920, 5), who was with Chaumonot at Lorette, in his Huron grammar of 1745, which makes use of Chaumonot's grammar, uses k and χ with the value of kh [apparently from the context, k with aspirate], as in χa *this*.

Secondly, for tc value, symbols other than kh are used by: Massé, nimitchiminan *nostre [excl] nourriture*, maratcihau *cognoissance* [carnal]; Le Jeune (JR **6**: 180, 288; **7**: 152–56), tchipaï meskenau *le chemin des ames*, outchi *a cause*, ouitchihien *si tu m'ayde*, khimitchimi *ton mets*; Crespieul, kitchitwa *saint*, ki ga manatchihan *thou shalt honor*, matchi manitou *evil spirit*.

If the foregoing two lines of evidence are valid, there existed in the Saguenay region in the second and third quarters of the 17th century an Algonquian r dialect using k before front vowels,—perhaps an aspirated or possibly a slightly palatalized k. That this dialect belonged to the Cree-Montagnais group rather than to the Algonkin-Otcipwe group is clear from Sagard's, Massé's, Le Jeune's and Crespieul's material: by the absence of nasals (n, m) before stops, the presence of s (š) before stops, and other grammatical and lexical features. This CM dialect agrees in certain significant respects with modern C, as in the use of k (kh) before front vowels. In other respects it is closer to modern M, as in the use of the locative in -ts (e.g., Massé, assitz *en la terre*, escouteouetz *dans le feu*), of the plural in -et (Massé), -eth (Le Jeune, JR **7**: 22), -ets (Crespieul, kinikihigouets *thy parents*, TB kinigihiguk;: variance from t to tc is found in modern TB, as, e.g., atukus, at°ukus, atcukus, *star*), and in the change of C sk before i to ss (Massé, kirassien, assitz, supra) or st (Le Jeune, JR **7**: 154, asti *la terre*). Sharing about equally both modern C and modern M features, whether it be called C (as I once called it: 1934, 60) or M or CM or be christened anew, is mostly a matter of words. For the rest of this paper we shall dub it for convenience CM.

The two above forms, assi and asti, *earth* (La Brosse, 1767, astshi; Durocher, 1856, assi; modern TB, aski), probably indicate contact by the authors or their confrères with speakers of two different CM dialects (cf. Michelson, 1939, 79, 82, 93). The ending -ki or -khi in Le Jeune (JR, **5**: 138; **6**: 202; **7**: 154–56, 204) for the plural of animate nouns, as iriniouakhi *men*, attimoukhi *dogs*, cacouakhi *porcupines* (contrast his irinoueth, attimoueth, JR **7**: 22), and for the locative, as ouascoukhi *au ciel*, ouabichtigoueiakhi *à Kebec*, nitichenicassouiniki *en mon nom*, may indicate contact by him or his confrères with speakers of a C or C-like dialect, possibly Têtes de Boule. It will be recalled that a rare locative in -ki, alongside the more common -k, occurs in modern TB.

So far as I can discover, this CM dialect last appears in our sources in Crespieul's Prieres of 1676,—unless it continues in the Montagnais dictionaries of Silvy (ca 1678–85) and of Favre (1696) to which I have not had access. While the latter fortunes of Montagnais have only a remote bearing on TB, a few words thereupon may be worth while putting on record here.

Beginning with Silvy's Catechism of 1678, the k before palatal vowels in our Montagnais sources of the 18th century is consistently replaced by č, spelt tchi in Laure (ca 1720–38a), Maurice (1740) and Coquart (ca 1746–65), and tshi in La Brosse (1767). A marked decline in population around 1700 in the upper Saguenay and Lac-St-Jean region, ascribed at the time to depletion of the game food resources and to the ravages of alcohol and disease (Raudot, 1904

[1709], 107–8; cf. JR for 1750, **69**: 112), may have led to the extinction or near-extinction of the CM speakers and to their replacement by č-using Montagnais from farther north or east. Or it is barely possible that an earlier slightly palatalized k shifted farther toward or to č. The change is clear; the cause thereof is very problematical.

Still another significant change in Montagnais occurred between 1782 and 1844. After La Brosse's death in 1782 until 1844, there was no resident missionary among the Montagnais of the Saguenay. They were served by visiting priests from Québec who apparently used interpreters. When the Saguenay missions were assigned to the Oblates of Mary Immaculate in 1844 and Durocher, who spoke Algonkin, took up residence on the Saguenay (RMQ, 1874, no. **21**: 65), he reported: "Quant à ceux [catechism and hymns] qui ont été écrits dans leur [the Montagnais'] langue ancienne par les RR. PP. Jésuites, ils [the Montagnais] ne les comprennent presque plus, tant cette langue a subi de variations." (RMQ, 1845, no. **6**: 147). "Nos premiers maîtres furent les ouvrages des RR. PP. De la Brosse et Laure; mais malheureusement ces livres, composés il y a plus d'un siècle, ne sont pas plus en harmonie avec la langue actuelle. Deux mois consacrés à l'étude de ces anciens ouvrages ne servirent qu'à nous convaincre que tout était à refaire: grammaire, dictionnaire et catéchisme" (Durocher, letter of 1845, in RMQ, 1847, no. **7**: 105). Arnaud 35 years later referred to "l'ancien montagnais que parlent encore certains de nos naskapis et dont la prononciation est presque celle d'ottaouaís" (Arnaud, in APFQ, 1880, n.s. **11**: 149). A comparison of La Brosse's prayer book of 1767 with Durocher's catechism of 1856 fully bears out these statements, not only as regards the partial replacement of r in La Brosse by l in Durocher, but in numerous other points. Survivals of the r dialect(s) of M are recorded, as previously stated, as late as 1880, by Arnaud (APFQ, 1880, n.s. **11**: 153), but not later in our sources, so far as I can discover.

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ABNAKI TEXT

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Eli Nolet, an Abenaki from the home village of Odanak (St. Francis), Quebec, was accustomed to return to the White Mountain region of New Hampshire each summer with his family to enjoy the associations of the home land from which his Abenaki ancestors had migrated by the middle of the 18th century. He and his family supported themselves there by the ash-splint and sweet-grass basketry industry. The family name was originally Wawanolet and appeared in the Histoire des Abenáquis by Maurault now almost a century old. Nolet was then in his seventies, a traditionalist by nature, a merchant by calling. His knowledge of the St. Francis Abenaki tongue (Aroosagunticook of the Wabanaki group) was thorough. In 1932 I recorded the following text from his dictation.

The legend is a native version of what happened in the 17th century or somewhat earlier in the St. Lawrence at the mouth of the Saguenay river. In the Jesuit Relations an event is described, as narrated by the Algonkian encountered by the French, in which a band of Iroquois raiders was annihilated on an island lying off Tadousac by a party of Algonkian. The island bears the name Isle au Morts to this day. The historical narrative has become diffused among speakers of Algonkian languages remote from the scene of the massacre. French-Canadian historical sources for lower Canada give local versions in print. In various tribal versions the story has been moulded into the local pattern of dramatic historical narration. The St. Francis Abenaki relation is an example of the direct historical narration with a shamanistic episode inserted.

Nǫwát álagəp nəwi·tám̥ən. pazəgwudá wǫbanaki·ák unəskəgǫ́ m̥agwá. ni· álowomat·ąwą p'hanəmú tawǫ́si·zá'. ta wətsək-'səmənǫ wi·gwomúwəł. ni· pázəgo ktsíp-'hanəm ki·zi·bulowá ali·tsaupi·gəbí·t si·búk. ni· nadalowinowák payǫ́ndi·t ní·na ktsip-'hánəm udi·łǫ́n "awani·gí·k ni·gí·k alalo 'kadí·t magwák." ni· nadalowinowák ugwi·ldawǫnǫ́. ni· udalí· mätəmi·kawǫnǫ́ mənánúk. ni·bəláu taskəbi·nǫ́ li· aləmi·dəbakák wadzi·dzí· baskándədəbątadí·t. saki·agwá ni·swák mədáuləwák udai·nənsá. ni·bəlagwá udli·uzi·nǫ́ taląwi·bá muskwas·ák. nəbi·k aowák. ni·agwá magwák ki·zi·adlǫ́gwi·pi·dí·t. ni·agwá pazəgó magwá udidamón "ali·kwi·lo'tǫ́ wǫbanaki·á' spí·wi·pukwi·gán." ni·agwá umautahá tágwa udago'tą́. ni· wi·dəbá ayagǫ́ wi·dzokamgót wadzí· ndagətałəzk'ʷ. ni·agwá ki·zi·matsi·kaoldi·dí·t magwák. ni·adudzí· k'pósadí·t ni·mzi·wí· wədətəzəmənǫ́ wudółuwél. ni·udzí· ubaskǫ́dəba 'taiganǫ́. ni·agwá nawudzí· ugadi·bulowąnǫ́ spí·wi· udołuwśł. ni·kanowá mzí·wi·agwá matsi·paskətsəpák wzǫmí· ali·udołuwáł totótəzówał. ni·agwá wudzí· ni·udəbál ubəs·i·adonǫ́. ni·mzi·wí· ni·li·ł udəbáł uni·mák'ʷhamənól utak'hodonól wi·wuni·wí. mənánuk. ni·wadzí·li·wí·təzik ni·mənán udəpsák. ni wudzí· udzi·gi·tawonǫ́ pazəgowá alnǫbá ntakagwí· udli·əwi·wǫ́ wadzí· mədzí·t tani·wadzi·əwí·t wadzi·dzí· ədokwədák kakwsá wǫbanaki·ák gizí·todí·t.

Long ago it happened as I am telling it. Once the Wabanaki were attacked and killed by the Mohawk.[1] Then it seemed that all were killed except a woman and her children. And their wigwams were set on fire. Then one old woman was able to escape by jumping into and hiding in the river. Then when the (Wabanaki) hunters came back this old woman said, "Those who

[1] The term given is the generic for Iroquois in practically all the Wabanaki languages.

have done this thing are Mohawk." Then the hunters pursued them. Then there they caught up with them on an island. Then in the meanwhile they lay in wait until nightfall in order to break their heads. And it happened that two (Wabanaki) sorcerers were there unknown to the others. Then as they waited they transformed themselves to be like muskrats. They stayed in the water. Then the Mohawk had cooked and eaten their (evening) meal. And then it happened that one Mohawk said, "Go find and strike the Wabanaki with the shin bone."[2] And then he struck him and wounded him. Then he had to be helped by his companion so that he would not sink. And then after awhile all the Mohawk fell asleep. Then as soon as they (the Wabanaki sorcerers) reached the shore they gnawed through all their (the Mohawk) canoes. Then next they (the Mohawk) were knocked on the head. And then thereupon they tried to escape with their canoes. But then all were also drowned because their canoes were thus gnawed through. And after that their heads they scalped. Then all their heads they put upon posts hanging them up all around on the island. That is why that island is called Head Place. After that they spared one man, doing nothing to him so that going away to where he belonged he would tell them what the Wabanaki could do.

[2] This denotes the leg bone of an animal after the meat has been eaten from it. To the Mohawk sorcerer who had detected the approach of the Wabanaki magicians it meant a magical club. It was probably a deer leg bone.

COMPOSITION AND SYMBOLISM OF COEUR D'ALENE VERB-STEMS

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The Grammar of the Coeur d'Alene Language appeared in the Handbook of American Indian Languages, Vol. III.[1] The character of that treatment did not permit more than the merest suggestion of certain theoretical problems. The makeup of the Coeur d'Alene verb-stem is of great interest, some aspects of which are presented here. All references are to paragraph numbers of the grammar, and the same abbreviations are used.

There appears to be a close psychological relationship between verb-stem, prefix and suffix. I have mentioned (§ 252) the strong probability that the independent word, i̇-ínä'ᵃ, *ear* is to be analyzed: i- *on* or *part of* (§ 393) i̇- > before stem (?) initial (§ 123): -inä'ᵃ *ear* (§ 473). In this case the suffix behaves exactly as does a verb-stem, even to affecting the prefix with glottalization.

From the similarity in form and meaning there can be little doubt that the directional prefix, tcɪts- *hither*, and the stem tcits *reach, arrive*, are closely related.

The element lut may be interpreted as stem and as prefix governing the negative forms (§ 313). lut is *no* when it refuses a request; lu answers a question. But, lut is also a finite verb meaning *no, refuse, deny, be mischievous*, and as such is treated exactly as other verbs (§ 750).

The element lut may also be interpreted as a verb if the negative is considered as a case of compounded verb, as it may be. On the other hand, there are cases which make it seem a prefix treated like other aspective or semi-aspective elements such as tcăł future (§ 754).

Certain nouns show the primary value of parts which seem otherwise to be suffixes:

s-nun *success* (-nun *succeed after effort*, § 450)

s-tcs-u'ps-ɛn *tail* (tcs- *after, tail*, § 399; ups *anal region* §456; -ɛn, *that which*, § 571)

s-ɬu's-mɛn *face*. It is possible that the stem lus may be composed of ɬu'ᵘ *be there* (§ 702); and -us *eye* (§ 478).

Prefixes have become part of the stem:

hin- (n-) *in* (§ 402):

ɦuɬxʷ *one enters*, is clearly made of up (hɪ)n-ut-ɬxʷ in which hɪn- before a stem (?) vowel > ɦ- -ut *be in position*; -ɬxʷ (*inside of*) *house* (t-ɬ > ɬ). An alternative, perhaps as likely, explanation suggests (hɪ)n-us-ɬxʷ with -us (§ 478) referring to *hole* or *house entrance* (s-ɬ > ɬ). That n is from hɪn- is attested by the example, ni'uɬxʷ *she went in amongst* (ni'ᵘ- *among* § 405).

ɦim *do in vain*, is probably compounded of (hɪ)n-im but it is difficult to assign a satisfactory meaning to -im (§ 439). It is thematic in stems like marim *treat*; dɪlim *gallop*.

ɦidus *exchange, barter*, is comparable with ɦuɬxʷ but none of its sounds are contracted: id stem meaning *exchange*; -us *face* (§ 478).

hingwic *jump*. In this case hɪn- has become thematic with gwic which means *rise*. hɪn- is always used with stems having the slightest reference to air or space.

ni'ᵘ- *among* (§ 405).

nä'ᵃkunɛm *think*, is probably composed of ni'ᵘ-'ăkun-ɛm *say something among*, i.e., *in one's mind* (ăkʷn *say*). Or, it may consist of nä'ᵃ- ăkʷn-ɛm > nä'ᵃkunɛm with nä'ᵃ *doubt*, although this seems to me less likely.

tc- *be on, attached to* but *not part of* (§ 395)

[1] J. J. Augustin, New York, 1938.

tc̓ix^{w} *lean*, from tc-ix^{w} tc- *on*; -ix^{w} *willingly, of own accord* (?) (§ 455).

tc̓ih *be near*, from tc-ih *be near, next to.* ttc- *be astraddle* (§ 396)

ttc̓igwul *climb tree or ladder, go from one branch or rung to another*, is perhaps from ttc̓-igw-ul: -igw *be far* (§ 445); -il place where two planes or elements meet (§ 454).

The stem for spit may be a compound of täp-, *on the way*; and -aχ^{w} *slide through or over*, or of täp- *on the way*; and päχ^{w} *scatter*. Its treatment is unusual, especially the use of the accent. It seems to be on the second syllable in its primary meaning:

tɛpä′χum *he spat*; tɛptɛpä′χum *each one spat.*

The gerund, however, has the accent on the first, showing tä- to be an integral part of the stem: stä′paχ^{w} *saliva.*

When, however, the action becomes more definite, it seems as if the analysis should be: t- on and part of; päχ^{w} *scatter.*

t-pä′χum *he spat on something*
it-pä′x-umc *he is spitting on something*
t-pä′χ-unts *he spat on it (him)*
t-pä′χ^{w}-puχum *he spat on this and that*

It may of course be that there are two different verbs.

Some stems ending in -ɬ seem to have secured -ɬ the dative suffix, as an inseparable part. There are two possibilities as to the composition of tcił *give*. It may be made up of tcits-ɬ in which ts-ɬ > -ɬ; tcits means *reach, arrive at*; and -ɬ *in behalf of*, or *instead of* (§ 562).

On the other hand, tcił *give*, may be compared to tcäɬ *separate*, in which case the change from ä to i vowel (or i to ä) indicates the opposite meaning. This interpretation would not rule out that just given, since once the stem and suffix had become amalgamated, there is no reason why, by analogy, the resulting stem should not be treated as many others are.

I have noted that the stem retains all its sounds even if it meets with sounds in the suffix which will cause complicated clusters (§ 122). No law is infallible, but the fact that -ts of tcits may have combined with -ɬ only justifies the interpretation of tcits as a stem derived from a prefix.

A third possibility, and in some respects the most plausible, is tcäɬ separate, with tcä- separate smaller from larger; -ɬ *sever* two of same kind or in same plane.

Some stems seem to be composed of a primary stem with a suffix, often untranslatable, and in these cases the suffix has the accent:

tcäṅ-ci′t *help*: tcäṅ *take hold of one large obj.* -cit *as a favor to* (§ 564).
pɪs-i′c *gather wood*: pis pl. *are large*; -ic *be in act of* (§ 434).
ṗɛs-a′q̓^{w} *bone breaks*
dɬ-i′m *go fast on all fours, gallop*
twɬ-a′ts *aim, point long obj. at*
ṯuk^{w}-i′p *start to· · · ·* (ṯäk^{w} *one lies*; -ip *bottom, back* [§ 463])
sɬu′p *set self spinning*
tś̓uk^{w}-i′n *one runs*
tcɪc-i′p *chase* (tcäc *accompany*; -ip *back* [§ 463])
tcɪtc-mi′n *throw one obj.*
tcił-i′p *hunt big game*
yitś-ɔ′p *shaking obj.* (*belt on water*) *becomes still* (*firm*) (yatś *band is tight*)
ẏaʀp-qi′n *be many, much*
gwun-i′t *call, summon*
gwun-i′x^{w} *be true*
q̓^{w}ul-i′w *bear eats berries*

Still other stems carry the accent and always appear with the same suffix. I presume these to be of the common type which may yield to analysis with more material. They are listed in the stem-list (IJAL 10.92–108).

Another interesting aspect of the stem is its phonetic symbolism, without doubt manifested in the vowel, and possibly also in the initial and final consonants. Change of vowel within a few categories indicates a difference in meaning. The most common of these changes may be explained as fol-

lows: If the stem has the vowel (ä, u, ụ, a,) given in the first column following, it has what I have taken to be its primary meaning and indicates that a thing has quality or is in a given condition automatically or without an outside force or agent. If however, it has the vowel of the second column (i, a, ɔ) it means the subject has been made or caused to act or to assume a condition by an outside agent.

The most common of these changes is from ä to i:

ṗäẏ *milk*	ṗiẏ *press*
	ṗäⁿ *squeeze in orgasm*
ṗältċ *turn flat obj. over*	ṗiltċ *turn eyes inward with pain*
mäṅ *rub*	miṅ *smear grease*
mäy *be evident*	miy *be made clear*
mäy *arrange*	miy *be dignified*
mät *persons lie*	mit *rest*
wältċ *roll*	wiltċ *make roll*
täxʷ *add to store*	tixʷ *gather, collect*
täkʷ *be stuffy*	tikʷ *smell out, detect*
täl *soft obj. or piece breaks off*	tilp *split off portion portion* (uᵘ-form)
ṫäṁ *slide scissors through fabric*	ṫiṁ *tear cloth from bolt*
ṫäk̓ʷ *one lies*	ṫik̓ʷ *be old* (related?)
näk̓ʷ *be one*	nik̓ʷ *be tribe*
sättc *second stomach, paunch*	sittc *stomach*
säl *turn swiftly*	sil *become turned, cause dizziness*
sägw-ät *who?*	sigw *ask question*
ṫśäm *press tight*	ṫśim *grab handful*
ṫśäl *long objects project*	ṫśil *outline*
tcägw *extend*	tcigw, *go out on prairie*
tcäl *cough up*	tcil *be nauseated*
tċäd *be shady*	tċid *shade* (tr.)
gwäc *comb*	gwic *be weir*
k̓ʷät *be exposed*	k̓ʷit *take off* (as clothes)
xʷäkʷ *clean*	xʷikʷ *be frosty*
qäl *be awake*	qil *wake up*

q̇äw *break stiff obj.*	q̇iw, *witch* (related?)
q̇äẏ *design*	q̇iẏ *cleft* (related?)
x̣äp *pile flat objects*	x̣ip *gnaw to destruction* (as beavers)
x̣ät *club*	x̣it *be corrugated* (related?)
x̣äts *get ready*	x̣its *threaten to hit with hand*
q̓ʷäẏ *poor, pitiable*	q̓ʷiẏ *have pity for*
q̓ʷäl *kindle*	q̓ʷil *light fire*
q̇wäd *be black*	q̇ʷid *blacken*
	q̇ʷih *be black person*
q̇ʷät *have endurance*	q̇ʷit *be preserving* (general)
x̣ʷäts *pass by*	x̣ʷits *crop hair*
läṗ *mark*	liṗ *make stripe*
läṫp *one leaps (jerk-bottom)*	liṫp pl. *jump*
läṫkʷ *jerk*	liṫkʷ *cause to jerk*
läk̓ʷ *spike, barb*	lik̓ʷ *hairlike obj. breaks*
ɬʷät.s *smile* (-s, *face*)	ɬʷi'ṫ *break into smile*

The stems in ä when q̇enoting a condition or state usually take the uᵘ-form (§ 294); whereas those in i, generally take äts- made so (§ 293); or -t be····innately (§ 300).

Changes from a to i and ɔ seem to have related meanings but, since the examples are not very numerous, they are not too convincing:

ṗaṫs *squirt*	ṗiṫs *squeeze, push*
	ṗɔṫs *smash*
paɬq *store*	ṗil *persons sit*
tsas *fine*	tsis *slender*
yark̓ʷ *be curved, hooked*	yirk̓ʷ *made bent, curved*
x̣ʷal *dart*	x̣ʷil *hurry at*
gwaq *be roomy*	gwɔq *make way through crowd or mass*

Perhaps closely related to the stems in ä are the following, some with weak accented vowels:

puxʷ *blow with mouth*	päxʷ *winnow, wind blows···*

qus *be gathered by sewing*	qʷäs *be shrivelled*
kʷụ'l *be red*	kʷil *redden*
qʷụ'n *be blue*	qʷin *make blue*
x̣uq̇ʷ *separate, divorce*	x̣ʷäq̇ʷ *grind meal*
	x̣ʷaq̇ʷ *divide*

The change from ä to i makes antonyms of the following:

täł *be straight*	tił *be brushy, sprawly*
tcäł *separate*	tcił *give*
tcäṁ *take hold of* pl. objects	tciṁ *disdain*
x̣ał *scare*	x̣il *fear, be afraid of*
łä'ä(n) *be there, opposite*	łi'ʿ *be even with edge*

The vowels ä and a seem to have a relationship like that of ä and i, the stems in ä giving the primary meaning, those in a the secondary, although the meanings sometimes seem reversed:

päẇ *drum on tin*	paẇ *drum on drum* piẇ *move in jerks*
päq *be white, bleached, silver*	paq *be whitened*
päɬkʷ *nail*	paɬkʷ *pierce*
päɬʷ *be in excess, surplus*	paɬʷ *defecate*
ṗät *be smooth*	ṗat *be mushy*
mäl *boil* (intr.)	mal *boil* (tr.), *scald*
täx̣ʷ *one animate obj. stops moving*	tax̣ʷ *cause to stop, bring to a stop*
täq *use sharp practice*	taq *cover with hand*
ṯäm *be damp*	ṯam *dampen*
täqʷ *explode*	ṯaqʷ *slap*
näq̇ *be sticky*	naq̇ *organic substance is rotten*
tśäm *press hard on*	tśam *be pointed* (*like lemon*)
cäp *sift, select, discriminate*	cap *tear meat from bone*
x̣ätś *stare*	x̣atś *be queer* (*cause of staring*)
x̣äl *be clear, light*	x̣al *be redhot*
q̇ʷäl *become ripe, cook burn, char*	q̇ʷal *be black from burning*
läɬʷ *skate*	laɬʷ *be slippery*
łäts *flat objects lie*	łats *one drop falls* (*related?*)
łäxʷ *draw together, sew*	łaxʷ *draw on, wear*
łäq̇ *make impound*	łaq̇ *be wide, lie on stomach*

Similar to the change from ä to i which denotes an antonym are the following with ä—a change:

läq̇ *bury*	laq̇ *search for, unearth*(?)
tägw *buy*	tagw *sell*

The class which shows u- change to ɔ is small, but seems to denote similar changes in meaning:

pus *animal digests or ruminates* (refers to look of stupidity during digestion)	pɔs *concentrate attention* (exactly equivalent to ruminate in sense of muse, meditate)
pu'us *bubble, swell*	pɔ'ɔs *joke*
nas, *be wet*	s-nɔs *nasal mucus*
yuqʷ *pretend*	yɔqʷ *pretend with* (i.e., *by motioning*)
qu'uł *dust*	qɔ'ɔł *make dusty*
tśuṁ *suck in air*	tśɔṁ *suck on* (*finger, bone*)

It is possible that theoretically any stem may take all the vowel changes. The fullest series I have is that designating various kinds of black, and it may readily be seen that final consonants change as well as vowels. It is almost certain that q̇ʷ- which is the common factor of all the forms is derived from q̇ʷ- disintegrate: q̇ʷäd *be black* (general); q̇ʷid *blacken*; q̇ʷäl *burn*; q̇ʷal *be black from burning*; q̇ʷih *black person*; q̇uq̇ʷụd *black horse*.

In addition to vocalic symbolism, con-

sonantal symbolism is discernible. Certain consonant changes indicate diminutive: tc > ts; tċ > tṡ; gw > ẇ; c > s.

regular form	diminutive
tc	ts
tcägw *extend*	tsägw *feather*
tciṗ *pinch*	tsiṗ *pinch taking just a little of substance (as skin)*
tċ	tṡ
cätċ *wait*	cätṡ *be firm, solid*
tċäw *be depressing*	tṡäw, *be boring, be washed (soaked) out*
tċäs *be bad*	tṡäs *salvage, collect by pecking*
tċälx^{w} *be concave, convex*	tṡälx^{w} *joists*
tċim *grab some*	tṡim *grab a handful*
gw	ẇ
tsigw *be youngest of adults*	tsiẇ *be youngest child*
tcigw *go out on prairie*	tcE-tci'ẇ *camas flat*
gwänt *be low, below*	ẇänt *a little below*
pigwt *swell*	piẇt *be light in weight*
c	s
tsic *be long*	tsis *be slender*; tsas *be fine*

The type of reduplication involved in stems with final consonant clusters (§ 598), as well as the similarity of initial and final consonants in many stems, quite obvious at a glance in the vocabulary, led me to investigate the possibility of consonant symbolism in the stems. This involved an analysis of the stem which has had interesting results. When I first began this analysis, I did not even suspect the possibility that consonants could have the same meaning initially and finally, although it was noted (§ 76) that labialization has similar effects no matter what its position in the stem. Consequently the meanings of initial and final sounds were worked out independently to a great extent. Circumstances were such, too, that they were worked out at intervals so long apart that I did not, consciously at least, remember the meanings I had worked out for one when doing the other. Although all this was accidental, it seems to me significant that in many of the cases given below I arrived at the same interpretations of initial and final sounds.

In a few cases, too, there are stems which might be considered pure as compared with the compounded ones and they have meanings which are related to those I arrived at: e.g., q̓i'ˑ means *stick to because of pressure, be wedged* and I got q̓ä- and -q̓ *be in* or *between layers*; ɔq^{w}s *drink*, conforms to my meaning of q^{w}ä- or -q^{w} *be in crotch* or *hollow*, for -s means *face*, and the stem means analytically *cause to go in crotch of face*.

Furthermore, after I had realized the possibility of compounding sounds, each with its own meaning, I was able in some cases to make up what I thought to be reasonable stems on the basis of my analysis, and, turning to the dictionary, to find those very stems. These details seem to be apposite in case the following discussion be considered a figment of the imagination.

In presenting it I have tried to avoid examples which go into figurative meanings in which Coeur d'Alene abounds, but which are never convincing in analysis since one man's guess is as good as another's.

Since I have already given many examples of meanings changed by vowels, I shall not stress this point in the stem analyses, but the causative meaning of i as against ä; of ɔ and i as against a; a as against ä; and ɔ as against u may be generally assumed. The stem-list serves to show the difference in these stems.

In weighing the analysis certain patterns of Coeur d'Alene thought must be borne in mind. A stem or a part of a stem—like the prepositional prefixes—may have a meaning

which we must choose arbitrarily and its opposite. For instance, if a stem means to unite, it may also mean to sever. Very little in the form of the complex, no matter how elaborate it may be in other ways, will tell which is meant. The only way of determining the meaning is by context.

Some of these opposites are, as is to be expected, quite different from any we should recognize. I have interpreted q̓ʷä- and -q̓ʷ as *pile or disintegrate*. Another example: x̱äp *pile flat objects*, or *flat objects lie in a pile* has a causative form, x̱ip which means *gnaw to destruction* and it is applied to such circumstances as a beaver gnawing down a forest. The connection when understood is not far-fetched, although it may seem so at first glance and without a feeling for the processes of Coeur d'Alene thought.

Another case is comparable. The sound mä-, -m has a very generalized meaning *be between without pressure, surfaces fit*. These elements are used too to express collapse, for in collapsing one surface comes to rest on another; märʷ *smash, ruin* (-r̓ʷ *in excess*); mäɬq, *heavy convex (concave) object collapses* (-ɬ *separate*; -q *increase from without*). Corresponding with this idea is that of the suffix -iwäs which means *apart* as well as *together, in contact with*, which is not nearly so hard to understand when we know it is only one example of a psychological viewpoint constantly met with in the language.

The element mä- or m serves to introduce illustrations of another point, namely, that the consonants make fine distinctions between meanings which might seem to be the same from a general point of view. I have said that mä- (-m) indicates *surfaces in contact without pressure* or being *between without pressure*. It is differentiated by the indefiniteness of the surface limits from -m̓ (which does not occur initially) which means *limited surfaces or enclosures*, and from qʷä-, -qʷ *in crotch or hollow*, because each of these has the additional meaning of defining the shape of the limiting or enclosing element. All of these could be roughly interpreted as *between* in English.

The treatment of surface is another example of interest in the specific in Coeur d'Alene. The elements with the most generalized meaning are tc̓ä- -tc̓ which seem to mean an unlimited undefined surface, but one of a pliable nature; xʷä- a continuous or covering surface; gwä- applies to an uneven surface. The relationship of this meaning to extend, be distant, which seems to be a better translation for -gw (cp. igw *set out for*, and -igw *be distant*, § 445) seems reasonably close.

With these few elements with highly generalized meanings the following specifying sounds are to be compared: -xʷ *broad surface*; -d, *wavy, uneven patches*. Interest in the limitation of surfaces is so keen that there are: -l *two surfaces or substances meet, often at an angle* (cp. -il with same meanings § 453); -n *approach limit*; -t *surface limit*; -ts *length limit* (cp. tsin *edge* §475); -ẏ, width limit (cp. -iẏ *billowy*, §471).

Related to the ideas of surface and its division and limitation are those showing how it is increased or diminished: tcä- -tc, *add (subtract from) small to larger*; tsä- *increase (decrease) line, bulk, or surface from within* (cp. -ts *have length limit*, and tc > ts *dim.*); qä- -q *add (diminish) surface or bulk from without*; lä- -l *unite (sever) two materials or substances of different kinds or at different angles* (cp. again -il § 453); ɬä- -ɬ *unite (sever) two similar materials or substances*. I have interpreted sä- as *out of line*, but its relationship to -s *increase in line or mass*, is obvious.

cä- which seems to mean *be single, individual* often enters into stems which designate separation; and da- which may mean *plural or collective objects stand* sometimes has that meaning. Still further specifications are made by -ɪ̓ which seems to designate *addition with projection, to be set to*, and -ẇ which means *increase (diminish) soft substance*.

The differentiation of some of these meanings may have to do with the notion of pressure. A few examples show that it is important: ṗä- -ṗ *pressure with motion*; tśä- *exert pressure at a point*, to be compared with -tś *result of pressure*, hence point or ridge; x̣ä- -x̣ *pressure of point* or *edge with friction*.

The stem is composed of the consonant (and vowel) with more generalized meaning as initial, with the specifying consonant following. When greater detail of specification is required, the stem ends in a consonant cluster, each element of which contributes to its meaning:

maq̓ʷ *pile, pl. round objects lie* (ma- *two surfaces meet*; -q̓ʷ *pile*)
mäl *persons lie* (-l *unite two similar surfaces*)
tsax̣ʷ *increase* (tsa- *increase bulk from within*; -x̣ʷ *fit into, become one with*)
tsalx̣ʷ *claw, increase from within two substances* (*at angle*) *fitting into* (*becoming one with*)
tśäx̣ʷ *spark* (tśä- *static pressure*; -x̣ʷ *in groove*)
tcäł *separate* (tcä- *separate small from larger*, -ł *two substances of same kind*)
tc̓äm *be surface* (tc̓ä- *be pliable surface*; -m *surfaces meet*)
x̣ʷäq̓ʷ *grind* (x̣ʷä- *fit into*; -q̓ʷ *pile*)
łäx̣ʷṗ *rush through, sever fitting into by moving pressure*
läx̣ʷq̓ *foot slips, sever by sliding over layers*

In many of the stems the same idea seems to be repeated, and this is not surprising since it is typical of other modes of expression. The suffix -inäʷ which means *on, over* (§ 541) is more frequently used than not with the prefix tc- or tcat- which mean nearly the same thing. Many expressions have two nominalizing s- prefixes; in others tcäł *future*, is used twice; the word for baby means *young-offspring* and has diminutive reduplication. A complex *I am a good lassoer* is expressed *I being good I am the one whose occupation it is to lasso*, and another which means *come to the end of* is composed of a stem which means *come to the end of* compounded with the suffix which means *tip*. A few stems which seem to express the same idea twice, each element showing only the slightest modifying function if any, are:

gwigwäp *step backward* (gwi- *cause uneven surface or distance*; -gw *be distant*; -ip *back*; § 463)
qäs *scratch with nails* (qä- *added from without*; -s *increase in mass or line*)
x̣äṗ *fasten as with button or toggle* (x̣ä- *pressure of edge on surface*; -ṗ *moving pressure*)

The suggestions offered by the analysis here presented are fascinating, and in my opinion, rewarding, especially when compared with similar attempts at breaking down the phonetic structure of stems so as to relate the sounds to meaning, as has been done with other languages, English for example, chiefly with negative results. Even if the results here given are not accepted, the analysis will have been worthwhile since it has brought out fine meanings of the stems which could not otherwise have been secured. A further test of the question will come with accurate vocabularies from other Salish languages, and it is hoped that this analysis will suggest problems at the same time that it will help to secure such word-lists.

In the following presentation of the examples which gave rise to these suggestions, those in which initials and finals seem to have the same meaning are given first. Since the finals are more specific, more of their meanings have been determined and usually too, more examples are available. An attempt has been made to retain an arrangement of the stems which corresponds to that of the stem-list, but in some cases where the meanings could be brought out more clearly by comparison with more com-

plicated forms, they have been so arranged, even though some stems would consequently appear outside of the alphabetical order:

-p *flat, bottom,* (cp. -ip *bottom* § 463)
pä *be flat*; pi- *make flat*

tilp *split off portion by portion,*
päṅ *bend flat obj.*

täp *persons stand* (ṫä- *pointed obj. protrudes*)
päk-ut *skin, hide* (-ut *be in position* § 147)

cap *tear meat from bone* (ca- *separate thing, individual*)
päł *be thick in layer* (-ł *unite similar substances*)

gwäp *be long-haired* (gwä- *uneven surface*)
päṭʷ *surplus* (-ṭʷ *be in excess*)

xʷäp *spread blanket* (xʷä- *continuous surface*)
pitś *push* (tś *point, ridge*)

qäp *pad* (qä- *added, subtracted*)
pulkʷ *fold blanket* (-l *at angle*; -kʷ *here and there*)

q̇äp *trap in crotch* (q̇ä- *in layers*)
pił *be scattered*

x̣äp *pile flat objects* (x̣ä- *pressure of edge on surface*)
pih *rise to surface* (as cream)

x̣ip *gnaw to destruction*

łap-x̣ *skin is rubbed off* (la- *sever*; -x̣ *pressure of point or edge with friction*)

-p̣ *pressure with motion; smooth slipping motion*
p̣ä- *pressure with motion and no friction, pressure of one smooth object on another,* hence *eject.*

ip̣ *wipe*
p̣i' *cause pressure*

sip̣ *buckskin* (si- *cause to be out of* [*in*] *line*)
p̣ä'ˢ *squeeze*

yäp̣ *sway, rock* (yä- *in curve*)
p̣ät *slip out of place* (-t *suddenly*)

x̣äp̣ *button, fasten* (x̣ä *pressure of edge on surface*)
p̣at *pour mushlike substance*

łäp̣ *mark* (łä- *unite*)
p̣atś *squirt* (-tś *point*)

tćip̣ *pinch* (tći-, *cause to be pliable surface*)
p̣ax̣ʷ-i'ˑt *cough* (-x̣ʷ *move in jet, slide over*)

yarp̣ *loop lies* (ya- *in curve*; -r *point limit*)
p̣är *flood* (-r *extreme*)

yänp̣ *screw, clamp* (-n *toward limit, hence* yän- *spiral*)
p̣ixʷ *be bright with own light* (-xʷ *continuous surface*)

läp̣x̣ʷ *fit into* (as ball and socket) (lä- *unite two substances*; -x̣ʷ fitted into)
p̣itć *glitter* (-tć *points*)

łax̣ʷ'p *rush through and out of opening* (la- *separate*)
p̣ältć *turn flat obj. over, person turns lying down,* (-l *two planes meet*; -tć *point, ridge*)
p̣än *long objects lie* (-n *approach limit*)
p̣aq̇ʷ *powder* (-q̇ʷ *pile*)

-m *be between surfaces with no pressure*
mä- *be between surfaces, surfaces meet*

ṫäm *cut with scissors*
maq̇ʷ *pile,* pl. *round objects lie* (-q̇ʷ *pile*)

ṫäm *be damp* (ṫä- *intrude*)
tim *shake hands* (ti- *cause intrusion*)

maxʷ *cover with snow* (-x̣ʷ *slide over*)

cäm *be in between* (as in running) (cä- *be single*)
maɬ *boil* (-ɬ *set to, added*)

tsum *surfeit with fat* (ts- *add to bulk*)
mäł *persons lie* (-ł *unite two surfaces*)

tśam *be pointed* (*as lemon*) (tśa- *static pressure*)
mäṭʷ *smash, ruin* (-ṭʷ *in excess*)

mi'ˑt *be middle* (-t *surface limit*)

tɬ̓ăm, *tighten by pressure of surfaces* (tɬ̓ă- *static pressure*)

djäm, *brace, pin* (djä- *make firm*)

ɋäm *swallow* (ɋä- in *layers*)

ɣam *bite* (ɣă- edge *presses*)

ɣämts *shave beard*

ʀäm *dissolve, waste away* (ʀä- *persistently*)

-d *in wavy, uneven patches*

tädic *squirm* (tä- *in line*; -ic *act of*)

s-ɬad-ä'ˢ *grass* (tä- *protrude*)

tɬ̓äd *shade* (tɬ̓ä- *be surface*)

xʷäd *itch* (xʷä- *continuous surface*)

ɋʷäd *be black* (*as head, clothes*) (ɋʷä- *pile*)

ʀid *glow, be redhot* ʀi- *cause persistently*)

miɬxʷ *smoke tobacco* (-xʷ *continuous surface*)

dä- *separate* (*unite*) *pl. or collective objects*

daɋ *peer through cracks* (-ɋ *in layers*)

dax *pl. go, drive animals* (-ɣ *slide through, over*)

dar *pl. hollow* (*bulky*) *objects stand*

däxʷ *lower one* (-xʷ *continuous surface*)

dăɬ *lie like four-legged animal* (-ɬ *set to, added*)

dɔɋʷ *rotten wood* (-ɋʷ *pile, dry stuff disintegrates*)

-t *surface limit*

tä- *be in line, surface limit*

atqʷ *pine* (-ɋʷ *in crotch*)

äw-t *oppose* (-w *wear out*)

ƥät *be laid low* (as grass after storm)

taxʷ *twirl*

tag *cover with hand* (-q *add from without*)

taqʷ *hollow, gulch* (-qʷ *hollow*)

(ƥä- *moving pressure*)

wit *stuffed with maggots* (wi- *cause to wear out*)

mɔ'ɔt *smoke* (mä- *surfaces meet*)

ci''t *be first* (cä- *be single, individual*)

xʷat *story comes to end* (xʷä- *continuous*)

ɣät *club, hit* (ɣä- *pressure at point*)

ɣʷät *cut in half* (ɣʷa- *slide through*)

ɬätɋ *drops hit, splash* (ɬä *unite similar substances*; -ɋ *layers*)

-ɬ *sudden, sporadic, jerky, protrusion*

ƥăt *slip out of place* (ƥä- *moving pressure*)

cäɬ *one long obj. projects*

tɬ̓ät *cut stem off* (tɬ̓ä- *surface*)

yiɬ *stir* (yi- *cause curve*)

ƙʷäɬ *expose* (ƙʷä- *at random*)

xʷäɬ *move hurriedly* (xʷä- *cont. surface*)

xʷäɬƙʷ *rise suddenly jerk* (*as wire*)

ɣäɬ *gnaw, eat off close to ground* (ɣä- *pressure of edge*)

ɬäɬ *one leaps* (ɬä *add* [*sever*] *similars*)

taɬq *touch with foot* (-ɬ *set to*; -q, *added from without*)

täs *bulge* (-s *increase line*)

tän *be taut* (-n *approach limit*)

täṅ *arranged in line* (-ṅ *arranged, controlled*)

täxʷ *add to a store* (-xʷ *continuous surface*)

täɣʷ *one stops* (-ɣʷ *become one with*)

täl *be straight* (-l *add similars*)

tɔr *stretch* (-r *be extreme*)

ti'' *hit bump, pound*

ɬä- *intrude, protrude*

ɬap *shoot*

ɬapq *stick needlelike obj. in* (q *add from without*)

ɬäm *cut with scissors* (-m *be between surfaces*)

täkʷs *nose bleeds* (-kʷ *flow*; -s *face*)

täqʷ *explode* (-qʷ *in hollow*)

ɬitɬ́ *smooth, iron* (-tɬ́ *pressure of edge*)

ɬitc *protrude* (tc *from*)

-n *approach*

tän *be taut* (tä- *in line*)
tsun *point* (tsu- *length limit*)
tc̓änp̓ *clasp, hug, embrace* (tc̓ä *unlimited surface*; -p̓ *moving pressure*)
yänp̓ *screw, fasten by screwing* (yä- *curve*; yän *spiral*)
gwän *be low* (gwä- *extend, be uneven surface*)
x̱ʷän *hurry to get at* (x̱ʷä- *slide over, through*)
ɬä'ăn *on opposite side* (ɬä'ᵃ *there*)
xʷi'ᵊn *go along here* (xʷi'ᵊ *here*)

na- *all through*; nä- *all over*

nas *wet* (-s *increase in mass*)
naq *satiated with food* (-q *add from without*)
naq̓ *be rotten* (*organic matter*) (-q̓ *in layers*)
näq̓ *be sticky*
näɬxʷ *paint surface* (*as house*) (-ɬxʷ *house*)
när *paint* (-r *extreme*)

-s is in many cases the weakest form of -us, *face, eye* (§ 478):

usɑlc *person dives*, i.e., *face moves in horseshoe curve*
ɔqʷs *drink* (-qʷ *in between*)
mins *turn face away*
tɔrs *beckon with eye* (tar *stretch*)
dik̓ʷs *turn back* (dik̓ʷ cross)
ɬaq̓ʷs *eye bursts* (ɬa *intrude, protrude*; -q̓ʷ *disintegrate*)
täk̓ʷs *nose bleeds* (-k̓ʷ *be indistinct, undefined, flow*)
ɬapq *stick needlelike object in* (-p *bottom*?; -q *added from without*)
ɬɔpqs *thread a needle* (-s *orifice through which light enters*)

Numerous stems, however, end in -s which seems in some cases to mean *increase (decrease) in mass or line*, hence, *be fuzzy, indeterminate*. s- initial, similarly seems to mean *out of line or shape*:

s- *increase, (decrease) in mass or line*

p̓usq̓ʷ *crumple, collapse* (p̓- *moving pressure*; -q̓ʷ *disintegrate*)

täs *bulge* (tä- *in line*)
nas *wet* (na- *all through*)
gwäs *spin thread* (gwä *be uneven surface*)
qäs *scratch with nails* (qä- *added from without*)
x̱us *foam as on beer* (x̱ʷ- *superimposed surface*)
q̓ʷäs *blur* (q̓ʷä in *hollow*)
q̓ʷäs *be shrivelled* (q̓ʷä- *disintegrate*)
Rus *be lost* (R- *tenaciously*)

sa- *be out of line*

saṅ *tame* (-ṅ *controlled*)
saq̓ *gape* (-q̓ *in layers*)
sax̱ *hew* (-x̱ *one surface rubs over another*)
saɬʷ *flow* (-ɬʷ *in excess*)
säxʷ *carry on back* (-xʷ *continuous surface*)
säl, *turn swiftly* (-l *planes meet*)
säl̓ *be obscure* (-l̓ *add surface*)
sixʷ *pour out* (xʷ *continuous surface*)
suk̓ʷ *float* (-k̓ʷ *at random*)
sux̱ʷ *fish dives* (i.e., *from surface of water*)

As -s is related to -us *face, orifice*, so -ts seems to be related to -tsin *edge* (§ 475), but has as its most generalized meaning *length, limit*, whereas the prefix tsä- means *increase in general*, or just the opposite, *separate, detract from*.

-ts *end limit, limit of length*

tuts *be well fed* (tu- *crowd*)
cäts *dig in ground* (cä- *be individual*)
xʷits *be short* (xʷi- *cause surface*)
q̓uts *be fat* (q̓ʷ *be in pile*)

tsä- *increase in general, separate, detract from*

tsä'äxʷ *caress* (-xʷ *surface*)
tsägw *extend, reach* (-gw *be distant*)
tsäkʷ *drag* (-kʷ *be indefinite*)
tsaq *convex, obj. stands* (-q *added at point*)

x̣ʷits *crop hair* (x̣ʷi- *cause to slide through*)
łats *one drop falls* (łä- *sever*)
Räts *tie* (Rä- *tenaciously*)

-tṡ *result of pressure, hence point or ridge*
ṗatṡ *squirt* (ṗa- *eject*)
matṡ-ult *pus*
matṡ-p *bee, wasp* (ma- *be between*; -p *bottom*)

tṡitṡ *pinch skin together*
yatṡ *clasped tight, firm at ends* (ya- *curve*)
yutṡ *beaver castoreum*
gwitṡ *pick out with stick* (gw- *be far, distant*)
q̇ätṡ *braid* (q̇ä- *be in layers*)
q̇ʷitṡ *be full* (q̇ʷi- *cause to be in pile*)
łutṡ *sticklike objects break* (ł- *sever*)

tsaqʷ *long obj. is in hollow obj.* (-qʷ *be hollow*)
tsäx̣ʷ *increase* (-x̣ʷ *become one with*)
tsaṯʷ *fringe* (-ṯʷ *in excess*)

tṡä- *exert pressure at point or ridge*
tṡaṗq̇ *adhere, stick* (ṗ *pressure with motion*; -q̇ *in layers*)
tṡam *sharply tapered* (*as lemon*) (-m *be between surfaces*)
tṡaw *soak out* (-ẇ *wear out*)
tṡaẇ *wash* (ẇ *soft surface*)
tṡaẇq *pull out nail* (-ẇ *soft surface*; -q *add at point from without*)
tṡaqʷ *skin animal, butcher* (-qʷ *between*)
tṡaq̇ *clumped* (-q̇ *in layers*)
tṡäṗ *lightproof*
tṡäm *press tighten* (-m *be between*)
tṡäkʷ *poke* (-kʷ *at random*)
tṡäx̣ʷ *spark* (-x̣ʷ *become one with, be in groove*)
tṡäl *one stands* (-l *two planes meet, be angle*)
tṡäl̓ *long objects project* (-l̓ *added surface*)
tṡitc *filelike* (-tc *separable*

tṡuṁ *suck in air* (-ṁ *be hollow*)
tṡoṁ *suck solid object* (*as finger, bone*)
tṡiṗ *pinch small* (-ṗ *slipping motion*)

-dj ?
djä- *be firm, braced*

ṯädj *spill, pour over* (ṯä- *protrude*)
lädj *stab, sting* (lä- *unite*)
djäm *pin, brace* (-m *between*)
djax̣ *mark by scratching* (-x̣ *one surface rubs over another*).
djaɬ *be firm, strong*

-c, *make orderly, put in order* (?)
cä- *be single, individual*

gwäc *comb*
cap, *tear meat from bone* (-p *bottom*)
cäp *select, discriminate*
cäm *one is in between* (-m *between*)
cäṯ *win* (-ṯ *suddenly*)
cäṅ *one flat obj. lies* (-ṅ *arranged*)
citċ *miss target* (ci- *cause one*; -tċ *points*)

-tc *separable*
tcä- *separate* (*unite to*) *small part from larger, hence, from or from on* (*to or onto*)

ṯitc *protrude* (ṯi- *cause to protrude*)
nitc *drive one animal* (ni- *cause to approach limit*)
l̓il̓itc *thin slice* (li- *sever*)
tcitc-mi'n *throw one* (tcä- *separate*; -min *cause*)
tcäṯ- *small is on larger* (-t *surface limit*)
tcäɬ *separate* (-ɬ *sever*)
tcäl̓ *cough up* -l̓ *added surface*)
tcigw *go out on prairie* (-igw *be distant*)
tcil̓ *be nauseated*

gwite *see* (gwi- *extend space*)

-tċ *wavering, undefined, indiscriminate*

ṗältċ *turn flat obj. (body) over* (ṗä- *pressure with motion*; -l *planes meet at angle, two kinds of substances meet*)
ṗitċ *glitter* (ṗi- *smooth pressure*)
gwäẗtċ *gore, prong* (gwä- *uneven surface*; -ẗ *suddenly*)

tċä- *pliable unlimited, undefined surface*

tċäẇ *large cylindrical* (ẇ *increase*)
tċäm *surface* (*especially in body-parts*) (-m *between*)
tċäṅ *one round obj. lies*

tċäd *be shady* (-d *uneven surface*)
tċätṡ *long obj. lies* (-tṡ *ridge*)
tċäx̣ *rub against* (-x̣ *rubbing surfaces*)
tċäl *bark* (-l *two elements meet*)
tċälxʷ *be concave* (-l *planes meet*; -xʷ *surface*)

From these may come the following more specific meaning:

-tċ *ends, points*

gwitċ *be kindling wood*
lätċ *bind* (lä *unite on different planes at angle*)
łätċ *string breaks* (łä- *sever similar materials*)

tċä- *ends*

tċäṗxʷ *click* (-ṗ *moving pressure*; -xʷ *surface*)
tċänṗ *clasp, encircle* (-n *approach*)
tċiṗ *pinch*
tċäẗ *cut off stem* (-ẗ *suddenly*)

-gw *extend, be distant*

igw *set out for*
ṗägw *echo, nag* (ṗä- *eject*)
pigw *swell* (pi- *cause flatness*)

gwä- *be uneven, broken surface*

gwaxʷ *pl. objects hang* (-xʷ *surface*)
gwag *be roomy* (-q *increase from without*)

tagw *buy* (ta- *be in line*)
tägw *sell* (a *and* ä *denote opposites*)
tsägw *feather* (tsä- *increase*)
tcägw *extend* (tcä- *separate small obj. from larger*)
kʷigw *see dimly* (kʷi- *be indistinct*)

gwigw-äp *step backward*
ʀigw *throw pl. objects* (ʀ- *persistently*)

-kʷ *be indistinct, indefinite, flow*

ukʷ *carry*
ukʷ(-t) *crawl*

ł̈äkʷs *nose bleeds* (ł̈ä- *protrude*; -s *face*)
tsikʷ *cause to look blurred*
läkʷ *be far* (lä- *add different substances*)
łiłikʷ *speckled* (łi- *cause to unite similars*)
łukʷ *be bloody*

-k̓ʷ *at random, suddenly*

ilk̓ʷ *store new acquisition* (il- *two elements* [*planes*] *meet*)

gwaq̓ *remove layer* (-q̓ *be in layers*)
gwalq̓ *uncover pit oven* (-q̓ *in layers*)
gwar *scrape* (-r *be extreme*)
gwaɾ *be clear, silvery*
gwäp *be long haired* (-p *bottom*)
gwäẗtċ *prong, gore* (-ẗ *suddenly*; -tċ *points*)
gwäs *spin thread* (-s *add to*)
gwäc *comb*
gwäl *burn, blaze* (-l *at angle*)
gwäl̈ *tilt* (-l̈ *set to so as to make project*)
gwiw *wear to shreds* (-w *wear out*)

kʷi- *be indistinct, undefined*

kʷigw *see faintly* (-gw *be distant*)
kʷil *become red* (-l *two planes* [*substances*] *meet*)
kʷäl̈ *be pleasantly warm (weather)* (-l̈ *set to*)
kʷar *be yellow* (-r *extreme*)

k̓ʷä- *at random, suddenly*

kʷax̣ *claw* (-x̣ *rubbing surfaces*)
k̓ʷäl *tickle*
k̓ʷaʀ *skid* (-ʀ *ten-*

pulk^{w} *fold sheet, blanket* (p- *be flat*)
suk^{w} *float with current* (sä- *out of line*)
tsäk^{w} *poke* (tsä- *exert pressure*)
yark^{w} *be curved, crooked* (yar *be circle*)
x^{w}ätk^{w} *one jerks, rises suddenly* (*as wire, hair*)
luk^{w} *pull off here and there* (*as lint*) (lä- *sever different substances*)
łäk^{w} *spike, barb* (łä- *unite similars*)
łitk^{w} *persons jerk into different positions*
łik^{w} *hairline object breaks* (łi- *cause to sever*)

-x^{w} *continuous surface, cover*

päx^{w} *windblown* (pä- *flat*)
pux^{w} *mouthblown*
ṗix^{w} *bright with own light* (ṗi- *eject*)
miłx^{w} *smoke tobacco* (mi- *cause to be between*; -ł *added projection*)
säx^{w} *carry on back* (sä- *be out of line*)
six^{w} *move out in a spout* (*as water from hose* (si- *cause to be out of line*)
yäłx^{w} *cover with blanket* (yä- *be curved*; -ł *added surface*)
gwax^{w} *pl. objects hang* (gwa- *broken surface*)

x^{w}ä- *continuous surface*

xups *slap with tail* (-ups *anal region*)
x^{w}äp *spread blanket* (-p *bottom, be flat*)
x^{w}äd *itch* (-d, *uneven in patches*)
x^{w}ät *move hurriedly* (-t *suddenly*)
x^{w}ätk^{w} *one jerks, rises suddenly* (-k^{w} *at random*)
x^{w}äẏ *be narrow* (*dim. only*) (-ẏ *limited width*)
x^{w}äk^{w} *sweep, clean*
x^{w}äl *clean fluffy material* (-l *remove*)

ḳäłx^{w} *hook over, into* (ḳä- *in layers*; -ł *added projection*)
läx^{w} *perforate, be hole* (lä- *separate different substances*)
łäx^{w} *sew, draw together* (łä- *unite similars*)

-q *surface, bulk added from without*

qä- *added subtracted*

małq *heavy convex obj. collapses* (ma- *between*; -ł *separate similars*)
tałq *touch with foot* (ta- *be in line*; -ł *set to, added surface*)
ṫapq *stick needlelike obj. in* (ṫa- *intrude*)
taq, *cover with hand* (ta- *be in line*)
ṫaq *brushy stuff lies* (ṫa- *protrude*)
naq *satiate with food* (na- *all through*)
tsaq *one hollow obj. stands* (tsa- *increase*)
tṡawq *pull out nail* tṡa- *static pressure*; -w *soft surface*)
tcarq *hang on* (*as bar*) (tcar *band lies*)
gwaq *be roomy* (gwa- *uneven surface*)
gwɔq *make way*
laq *pull weeds* (la- *sever*)
ɬaq *mend, patch* (ɬa- *unite similars*)
haq *be, have space*

qäp *pad* (-p *bottom*)
qäs *scratch with nails* (-s *increase*)
qäts *shrink in quantity* (-ts *reach length limit*)
qɔq^{w} *be mouldy* (-q^{w} *be in pile, disintegrate*)

-ą̇ *in layers*

daą̇ *peer through cracks*
(da- *separate pl. objects*)
ɬaɬą̇ *take from inside* (ɬa- *intrude, protrude*; -ɬ *added at a point*)
naą̇ *organic matter* (*meat*) *is rotten* (na- *all through*)
näą̇ *be sticky* (nä- *all over*
saą̇ *gape* (sa- *out of line*)
tsȧṗą̇ *adhere, stick* (tsȧ- *pressure at point*; (ṗ *pressure with motion*)
tsȧą̇ *bunched, clumped* (tsȧ- *pressure at point*)
yaą̇ *file, whet* (ya- *circle*)
gwaą̇ *spread apart, remove layers* (gwa- *uneven surface*)
gwalą̇ *uncover bakepit* (gwa- *uneven surface*; -l *two elements meet*)
laą̇ *pare, peel* (la- *sever*)
ɬätą̇ *drops hit, splash* (ɬä-, *unite*; -t *surface limit*)
ɬaą̇ *enlarge, widen, lie on stomach* (ɬa- *unite*)
ɬaχʷą̇ *foot slips* (ɬa- *sever*; -χʷ *slide*)

-χ *pressure of point or edge with friction*

ą̇ä- *in layers, have space between*

ą̇äp *pad* (-p *bottom*)
ą̇äpqʷ *crotch of tree becomes trap* (-qʷ *hollow, crotch*)
ą̇äm *swallow* (-m *between*)
ą̇äw *break stiff obj.* (-w *wear out*)
ą̇ätṡ *braid* (-tṡ *point, ridge*)
ą̇äẏ *design, write* (-ẏ *limited width*)
ą̇äɬxʷ *hook over, onto* (ɬ *set to, added*; -xʷ *surface*)
ą̇i'ˑ *wedge in, fasten by wedging*
ą̇iẏ *cleft* (-ẏ *limited width*)

χä- *pressure of point or edge with friction*

paχ *rub over rough surface* (*as strike match*)
saχ *hew* (sa- *be out of line*)
djaχ *mark by scratching* (*dja- be firm*)
tċäχ *rub* (*as horse against post* (ṫcäpliable *surface*)
laχ *lighten* (la- *sever*)
ʀaχ *wrap string evenly* (*as to bind feather to arrow*) (ʀa- *persistently*)

-qʷ *in crotch or hollow*

ɔqʷs, *drink* -s *face*)
taqʷ *hollow, gulch* (ta- *in line*)
ɬaqʷ *slap* (ɬa- *intrude*)
ɬäqʷ *explode*
tsȧäqʷ *butcher* (tsȧä- *exert pressure at point or ridge*)
qɔqʷ *mould*
laqʷ *tallow stored in bladder* (la- *add different substances*)
ɬaqʷ *band pulled tight* (ɬa- *unite*)

χaʀ *fan* (-ʀ *persistently*)
χaɬ *spy* (i. e., *look through fingers*) (-ɬ *add small surface to large*)
χäp *pile flat objects* (-p *flat*)
χäm *bite* (-m *be between*)
χämts *shave* (-ts *edge, mouth*)
χät *club, hit* (-t *surface limit*)
χät̀ *gnaw* (*as mouse*) (-t̀ *suddenly*)
χäl *lay side by side in order* (*as lumber*) (-l, *unite*)
χip *gnaw to destruction* (*as beaver gnaws trees*)
χɔlą̇ʷ *wind string* (-l *two elements meet*; -ą̇ʷ *pile*)

qʷä- ?

qʷäɬ *enkindle* (-ɬ *add projection*)
qʷäɾʷ *get drunk* (-ɾʷ *in excess*)

The next sound, ą̇ʷ means to *pile* and to *disintegrate*. That it is not far-fetched to deduce these meanings from the same symbol is attested by the stems χäp *pile flat*

objects; and χip *gnaw to destruction*, i. e., *destroy by piling*.

-q̓ʷ *disintegrate, pile*

q̓ʷä- *disintegrate, pile*

p̓aq̓ʷ *powder* (p̓a- *pressue with motion*)

q̓ʷäd *be naturally black* (-d *in many uneven patches* [?])

p̓ɛsaq̓ʷ *bone breaks* (p̓a- *pressure with motion*; -s *out of line*)

q̓ʷäs *shrivel* (s, *out of line*)

dɔq̓ʷ *rotten wood* (da- *separate pl. or collective objects*)

q̓ʷal *cook, burn* (-l *sever*)

ɬaq̓s *eye* (*egg*) *bursts* (ɬa- *protrude*; -s *eye*)

q̓ʷits *be full* (-ts *length limit*)

yanuq̓ʷ *it is coiled* (*snake*) (yan- *spiral*)

q̓ʷih *black person* (?)

χɔlq̓ʷ *wrap string evenly* (χɔl *lay evenly*)

χʷäq̓ʷ *grind meal* (χʷä- *motion in groove*)

ɬaq̓ʷ *pull off skin* (ɬa- *sever*)

-χʷ *fit into, hence, be in groove or stream; slide through or over*

χʷä- *perhaps as* -χʷ *but the examples are few and unconvincing*

p̓aχʷ-i'ɬt, *cough* (p̓a- *pressure with motion*)

χʷat *cut in half* (-t *surface limit*)

maχʷ *cover with snow* (ma- *be between*)

χʷän *hurry to get at* (-n *approach*)

taχʷ *hold firmly so as to stop shaking* (ta- *be in line*)

χʷäq̓ʷ *grind meal* (-q̓ʷ *disintegrate*)

ȟaχʷ (*flow*) *downstream* (ȟ *for* hun- *in*)

χʷäɬ *dart* (-ɬ *unite*)

tsalχʷ *claw* (tsa- *increase from within*; -l *two elements meet*)

χʷits *crop hair* (-ts *edge*)

tɬäχʷ *spark* (tɬä- *pressure at point*)

χʷiɬ *hurry while at* (-ɬ *unite*)

tɕäχʷ *shove* (tɕä- *pliable limited surface*)

läp̓χ *fit into* (*as ball and socket*); *wear hole into* (lä- *unite*; -p̓ *pressure with motion*)

ɬäχʷ *move with weight and speed* (ɬä- *sever with pressure*)

ɬaχʷ-p̓ *rush through* (ɬa- *sever*)

ɬʷaχʷ *stringlike object extends* (ɬʷa- *reach into*)

Apparently related to -il *two surfaces meet at an angle, two elements meet* (§ 453), are -l, and lä. Both mean to *unite* and *sever*, and they seem to be differentiated from the next sounds, -ɬ and lä in that they refer to elements or substances which are at angles to each other rather than parallel. However there are certain exceptions to this rule operating about as frequently in one direction as in the other. This is perhaps not to be wondered at since the differentiation between the two sets of sounds is so small.

-l *unite* (*sever*) *at an angle, or two substances*

lä- *unite* (*sever*) *at an angle, or substance of different character*

äl *move body*

ilkʷ *store*

laq *pull weeds* (-q *separated from without*)

p̓ältɕ *turn over flat obj.* (p̓ä- *pressure with motion*; -tɕ *ridges*)

laq̓ *pare, peel* (-q̓ *pare, peel*)

malkʷ *curdle* (ma- *be between*; -kʷ *at random*)

lädj *spear, sting* (-dj *be firm*)

lätɕ *bind* (tɕ *ridges*)

läxʷ *hole* (xʷ *broad*

cäl *split* (cä- *be individual*)
tćäl *bark* (tćä- *pliable limited surface*)
gwäl *blaze* (gwä- *uneven unlimited surface*)
χäl *lay evenly* (*as lumber*) (χä- *pressure of edge with friction*)
χil *lick off of* (χi- *cause pressure of edge with friction*)
q̇äl *swing* (q̇ä- *be in layers*)
q̇ʷäl *cook, burn, char* (q̇ʷä- *disintegrate*)
ƚʷäl *drunk* (ƚʷä- *in excess*)
sil *cause dizziness* (si- *cause to be out of line*)

-ł *unite* (*sever objects or materials of similar kind*

łäp *pack away* (ƚa- *pressure of one smooth obj. on another*; -q *add from outside*)
małq *heavy convex obj. collapses* (ma- *between*)
päł *thick* (*as slice*) (pä- *flat*)
mäł *persons lie* (mä- *between*)

tä-l *be straight* (tä- *be in line*)
gwuł *twinkle* (gw- *extend*)
kʷäł *tickle* (kʷä- *at random*)
kʷälc *start suddenly,*

łä- *unite* (*sever*) *objects in same plane or materials of similar kind*

łapχ *rub skin off* (-p *be flat*; -χ *pressure with friction*)
łaq̇ *widen, lie on stomach* (-q̇ *in layers*)
łaqʷ *tallow in bladder* (-qʷ *in hollow*)
łaq̇ʷ *skin, pull off* (-q̇ʷ *disintegrate*)
łaχʷ *move with weight and speed* (-χʷ *slide through or over*)
łaχʷp *escape* (-p *at back*)
łaχʷƥ *rush out* (-ƥ *pressure with motion*)
łaƚʷ *be slippery* (-ƚʷ *be in excess*)

be startled (kʷä- *at random*; -c *act of*)
ƚʷäł *be of one piece* (ƚʷä- *reach beyond*)

-R *with tenacity*

tsaR *scream* (tsa- *add from within*)
yaR *assemble* (ya- *be circle*)
kʷaR *skid* (kʷa- *at random, jerkily*)
χaR *fan* (χa- *pressure of edge with friction*)

łäƚʷ *skate*
łäƥ *mark, stripe* (-ƥ *pursue with motion*)
łätq̇ *drops hit* (-t *surface limit*; -q̇ *in layers*)
łätć *string breaks* (-tć *points*)
läkʷ *pull off here and there* (*as cotton from clothes*) (-kʷ *at random*)
łäkʷ *spike, fork*
łäxʷ *draw on, pull together, sew* (-xʷ *broad surface*)
łik̇ʷ *hairlike object breaks*
łäχʷƥ *foot slips* (-χʷ *slide through or over*; -ƥ *pressure with motion*)
łiẏ *be spotted* (-ẏ *broken surface, width limit*)
łɔq̇ *be bare, bald* (-q̇ *layer*)

Ra- *tenacious, persistent*

Raẘ *liquid drops* (-w *wear out*)
Raχ *wrap evenly with string* (-χ *pressure of edge with friction*)
Raɬ *obstruct* (-ɬ *add small surface to large*)
Räm *waste away, dissolve*
Räts *tie* (-ts *length limit*)
Rätśʷ *be exhausted, hungry for meat* (-tś *result of pres-*

sure; -xʷ *wide surface*)
ʀitś *strive*

-ɾʷ *in excess*

ɑɾʷ *be much, many*
pɑɾʷ *defecate*
sɑɾʷ *flow* (sɑ- *out of line*)
tsɑɾʷ *fringe* (tsɑ- *increase from within*)
pärʷ *be surplus* (pɑ- *be flat, bottom*)
märʷ *smash, ruin* (mä- *between*)
qʷärʷ *be drunk* (qʷä- *in between*)
lärʷ *plunge headfirst* (lä- *two elements meet*)
łärʷ *skate* (łä- *unite* [*sever*] *two surfaces*)

ɾʷä- *reach beyond*
ɾʷɑxʷ *stringlike obj. extends* (-x̣ʷ *slide over*)
ɾʷäl *dunk* (-l *two elements or angles meet*)
ɾʷäł *be of one piece, continue without variation* (-ł *unite two similar substances*)
ɾʷim *relish, enjoy food* (-m *between*)
ɾʷimɯc *hurry along in motion*

-ṁ (derivative, does not occur initially) *within closed or bound-in space*

täṁ *slide scissors through cloth* (tä- *intrude*)
tśɔṁ *suck on solid obj.* (*as finger*) (tśɔ- *exert pressure at point or ridge*)
yiṁ *surround* (yi- *make circle*)
-w *wear out* (?)
tśɑw *soak out* (tśɑ- *static pressure*)
gwiw *wear to shreds* (gwi- *be uneven surface*)
q̓äw *break stiff obj.* (q̓ä- *in layers*)
x̣iw *be shy, timid, ashamed* (x̣i- *cause to slide over*)
ʀɑw *drop* (*as water*) (ʀɑ- *persistently*)

-ẇ *add to something which gives, soft surface*

pɑẇ *pound on drum* (pɑ- *flat, bottom*)
tśɑẇ *wash* (tśɑ- *pressure at point or ridge*)
niẇ *wind blows* (ni- *cause to be all over*)
tuẇ *stuff* (tu- *swarm, crowd*)
tsuẇ *punch* (tsu- *increase in general*)

-ṅ *arranged, controlled*

päṅ *bend* (pä- *be flat*)
p̓aṅx̣ *woven bag* (p̓ɑ- *moving pressure*; -x̣ *pressure of edge on surface*)
mäṅ *rub* (mä- *surfaces meet*)
täṅ *arranged in line* (tä- *be in line*)
säṅ *tame* (sä- *be out of line*)
cäṅ *one flat obj. lies* (cä- *be single, individual*)
tcäṅ *take hold of large obj.* (tsä- *unite small to larger*)
tcäṅʷ *touch with some part of body* (-xʷ *continuous surface*)
t̓cäṅ *one round obj. lies* (t̓cä- *surface*)
k̓ʷiṅ *choose, try* (k̓ʷi- *cause at random*)

-ẏ *limited width, hence billowy or uneven surface* (cp. § 460)

p̓äẏ *press* (p̓ä- *moving pressure*)
q̓äẏ *design, be variegated* (q̓ä- *in layers*)
q̓ʷäẏ *wring, choke* (q̓ʷä- *in hollow*)
gwäẏ *finish* (gwä- *uneven surface, extend*)
tiẏaqʷ *fight* (tiʻ *pound, hit*; -aqʷ *wedged between*)
q̓iẏ *be cleft*
łłiẏ *be spotted* (łi- *cause addition of similars*)
p̓uẏ *wrinkled*

-l *add to projectingly, take from*

mal *boil* ma- *be between surfaces*)
milxʷ *smoke tobacco* mi- *cause to be between surfaces*; -xʷ *continuous surface*)
säl *be obscure* (sä- *be out of line*)
tśäl *long objects project* (tśä- *pressure at point*)
tcäl *cough up* (tcä- *separate small part from larger*)
gwäl *tilt* (gwä- *uneven surface*)
q̓älxʷ *hook over, into* (q̓ä- *in layers*; -xʷ *continuous surface*)
talq *touch with foot* (ta- *be in line*; -q *bulk added from without*)
ł̓alq̓ *take from inside* (ł̓a- *protrude*; -q̓ *in layers*)
ʀal *obstruct* (ʀa- *tenaciously*)

REVIEWS

LEARNING NAVAHO. By Berard Haile. St. Michaels Press, Saint Michaels, Arizona. Volume one, pp. 184 (1941), volume two, pp. 224 (1942).

This review proposes to discuss Father Haile's book as the embodiment of a set of sound and up-to-date principles of language teaching, and not as a contribution to American Indian linguistics as such.

1. Teaching of a language presupposes a thorough structural analysis. Arrangement and selection of the material, the order of presentation, depend mainly on the structure. It is neither important nor desirable to explain the whole system to the beginner; the quantity and aspects to be presented depend on the degree to which the structure in question contrasts with that of the learner's mother tongue. "Naturally rules of grammar cannot be entirely ignored," writes Father Haile. "These are limited to a minimum and discussed whenever occasion arises. Our series, therefore, is by no means a complete grammar of the Navaho language."

2. The statements about structure involve the meaning, the privileges of occurrence, and the delimitation of morpheme classes (by pointing out morphemes of identical distribution). The grammatical rules come always after the language experience; they are inductive generalizations obviously distilled from the preceding examples. These illustrations are preferably in conversational form, taken down from actual talk by the informants. The student constructs new sentences by analogy. Exercises provide new contexts for the substitutions and afford an opportunity for free conversation at the very outset. Father Haile's book follows this outline. There are twenty-four lessons, each of which conforms, more or less, to this pattern: "Ordinarily we first offer a number of sentences which present a fairly well connected conversation in the vernacular. This is followed by a language Drill which rehearses words and offers variations of the topic found in the Conversation. . . . We let a Vocabulary follow this drill, in which the meaning of the words employed is explained. . . . any rules of grammar will be discussed in this section. A short Exercise is added to allow the student to apply what had been presented in the lesson."

3. Drill is the province of a native informant, unless the linguist happens to be bilingual. Language teaching, therefore, is a cooperative endeavor between scientist and native.

4. The orthography is phonemic. "By actual tests we found that both native and white students quickly respond to its simplicity and accuracy and, in a reasonable time, we were able to record and reproduce Navaho sounds correctly."

5. The need for close phonetic reproduction (aiming to mimic all the distinctive features of each allophone) seems to vary according to the cultural interest of the speakers. The average Hungarian, experience shows, is impressed and flattered by the very attempt of an American to master his "difficult and strange" language; he will overlook omission of certain distinctive features or wrong distribution of allophones. On the other hand, Father Haile insists "that it is far better to acquire a pronunciation of the language as the Navaho himself speaks it than to accumulate a store of words badly pronounced, which only invite native ridicule." Accordingly, he devotes much space in the introductory volume to Navaho phonetics, which may appear out of proportion to the student not familiar with the culture.

6. Introduction to reading and writing should be postponed until the student has acquired a good deal of fluency in speech. The Navaho "classes were introduced to the

alphabet and its phonetics gradually, by means of spoken phrases rather than by a systematic treatise on the alphabet." There are readings at the end of each volume, which "familiarize the student with word sequences in a Navaho sentence."

7. Audio - visual techniques — records, movies, plays—facilitate language learning. Father Haile relies on drawings, gestures, and recommends "a set of dolls representing a Navaho man, woman, boy and girl, dressed in native attire;" these were found "very convenient in class work, as the dolls can easily be handled by the instructor and students."

8. The study of the cultural setting of which the linguistic structure is a part (area study) is not only a stimulus for language learning but an almost indispensable discipline for a thorough understanding of the language. Students of Navaho ("traders, field workers and teachers of the Indian Service, as well as missionary workers") presumably make an attempt at understanding the group they deal with. The daily life of the Navaho is the chief source from which the author has drawn his phrases. "These reflect such contacts as visits to and from the hogan bring, the industries and occupations found in and about the hogan, travel of the speakers afoot, astride, by wagon, auto and rail, and the reaction of the language, for instance, to modern inventions, like the telephone, telegraph and radio." The entire second volume is devoted to the subject of travel in general, and a certain familiarity with the function of travel in Navaho life is essential for understanding fully, for instance, the so-called go- and speed-verbs. In conversation with a Navaho one must be aware of a complex kinship system (hence social organization) and that a birthday is of much smaller concern to him than the locality in which he was born.

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THE A B C OF NAVAHO. By Robert W. Young and William Morgan. Education Division, United States Indian Service. Phoenix, Arizona, 1944.

A brief and very elementary account of Navaho phonetics, evidently written for Navaho children being trained in the arts of reading and writing English and their native tongue. The description is given in both English and Navaho. Curiously enough, though the pamphlet is presumably written for Navaho children, the sounds of their language are, wherever possible, illustrated from English. It would seem the better pedagogy to use Navaho examples, especially when the contrary practice leads the authors to compare Navaho b, d, and g (all of which are voiceless, unaspirated lenes) with English b, d, and g. Otherwise the task seems to be well done.

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This little book is prepared for the purpose of helping Navaho themselves to write their language, a most laudable and timely undertaking, authored by Robert W. Young, who speaks Navaho and has studied and taught it for several years, and by William Morgan, native speaker.

The old-time padres of Middle America and of South America considered it useless to try to write Indian languages very different from the way Spanish and Portuguese, the standard languages of those countries were, and are, written, and modern educators, with all their study of pedagogy, arrive at more or less the very same conclusion. The attempt to burden youngsters with two different sets of letter values is pedagogically absurd. In this book, therefore, several of the Navaho sounds are written as they are in English, so that the pupil will be bothered only with one value. For instance, the strong h of Navaho and also the very rare weak h of the beginning of words and of the end of some syllables, are both rendered

by h. But cleverly enough the strong h when it occurs after s, is written by x, since otherwise the sh might be taken for the digraph representing a single sound.

Navaho has two pitches: high and low. The high is indicated by placing an acute accent over a vowel, the low is left unmarked. A vowel is written double to indicate that it is longer. This does away with the otherwise necessary employment of some mark for length. Long vowels are cleverly considered to be double entities as regards high and low tone, with the result that only the acute is used above vowels, thus saving much trouble and expense in the procurement of type. Thus are employed as long vowels the sequences áá ás aś and aa, all of which involve the use only of an acute accent type.

The ABC of Navaho is the mere accompaniment of instruction. Without instruction the book would be like a linguophone course without records. The book is written only for the purpose of accompanying viva voce instruction, blackboard work and constant written exercises—in classes which have been attended by Government teachers and employees as well as by Navaho-speaking youngsters.

The results and advantages of the native languages program are already far-reaching and are some half dozen in number. Letters written in the new practical system come in from Navaho soldiers and sailors far overseas, and Indian instruction in the Spanish speaking countries to the south of us is rapidly following suit.

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LINGUISTIC ASPECTS OF YAQUI ACCULTURATION. By Edward H. Spicer. AA 45.410–26 (1943).

A CLEAR CASE OF LINGUISTIC ACCULTURATION. By Jean Bassett Johnson. AA 45.427–34 (1943).

THE LINGUISTIC ASPECT OF WINTU ACCULTURATION. By D. D. Lee. AA 45.435–40 (1943).

NAVAJO MONOLINGUALISM. By Erik K. Reed. AA 46.147–9 (1944).

THE GEOGRAPHICAL, LINGUISTIC, AND CULTURAL POSITION OF THE POPOLUCA OF VERACRUZ. By George M. Foster. AA 45.531–46 (1943).

THE KINSHIP AND STATUS TERMS OF THE TIWA LANGUAGES. By George L. Trager. AA 45.557–71 (1943).

SOBRE FONÉTICA WITOTO. By J. P. Harrington. Anales del Instituto de Etnografía Americana, Universidad Nacional de Cuyo 5.127 ff. (Mendoza 1944).

The degree of Yaqui receptivity with regard to Spanish (also Latin and Nahuatl) seems to be extremely high. Spicer takes up primarily the lexical aspects—especially nominal expressions—of Yaqui acculturation; Johnson studies the identical problem from both the lexical and the structural points of view. Description of Yaqui, as of other Mexican languages, throws much light on the machinery of language mixture. The penetration of foreign lexemes has affected the terminology of both Yaqui material culture and social organization profoundly. The development of several highly specialized vocabularies (for example, those of the cotton-workers and the railroad gangs) may serve as a measure of current economic relations. The terminologies of each major social institution around which a Yaqui village is organized, namely, the family, the godparent, and the ceremonial society, contain many loan-words. Spicer shows that a relative chronology of borrowings can be established by even preliminary analysis of phonetic correspondences and morphological processes. While Yaqui words have resisted Spanish encroachment when they have ramifications throughout more than one layer of culture, they failed to halt the intrusion particularly under these conditions: when there was no Yaqui term

for a cultural novelty; under deliberate pressure (for instance, by Jesuit missionaries); and "when the contact situation resulted in temporary dislocation of the social structure with consequent discontinuity of native tradition," as illustrated by the kinship terminology, where borrowed terms are in use for relatives outside the elementary family.

Johnson's discussion of Spanish influence on Yaqui structure, though brief, is especially fascinating. The linguistic criterion of receptivity—the capacity of a language to absorb foreign elements—was postulated by the Czech scholar Otakar Vočadlo.[1] Both Sapir and Trubetzkoy have repeatedly stressed that the degree and kind of receptivity depends on linguistic structure as well as on the socio-cultural circumstances. The linguistic conditions of receptivity are yet to be formulated. Sapir pointed out in 1921,[2] that the "study of how a language reacts to the presence of foreign words—rejecting them, translating them, or freely accepting them—may throw much valuable light on its innate formal tendencies." Today the statement may be reversed: a given system reacts under contact with another in an eventually predictable manner; that is, the measure of receptivity might lie in the distinctive structure itself. This paper studies the modifications of Yaqui structure under the impact of another, Mexican Spanish. From the data presented, Johnson concludes that "contacts of language, as of culture, affect every part of language, and that . . . it is not possible to treat linguistic acculturation in one aspect of language without considering all aspects of the language." While this may seem obvious at first glance, it is not so by any means, considering the plethora of unsystematic acculturation studies and the lack of descriptive structural material.

Lee notes two trends in the linguistic acculturation of Wintu·': the incorporation of new words which have been fitted into native patterns; and the loss of old words, indicating a disintegration of these same patterns. The two tendencies may be correlated with age groups, the first being typical of the older generation, the second of the younger, bilingual group. A shift in Wintu·' Weltanschauung, the author suggests, accompanies the linguistic change.

Navaho, in contrast with Yaqui or Wintu·', is almost totally unreceptive to foreign influences.[3] Moreover, according to Reed's observations, speakers of Navaho show a "definite disinclination to learn and speak the languages of other peoples." Speakers of other native Southwestern languages are forced to learn Navaho to communicate with them, much as Algonquian speakers must learn to speak Eskimo whereever they come in contact, since the latter also shrink from learning certain foreign tongues. Planners of various international auxiliary languages may well ponder over the additional problem raised by the existence of such centers of resistance, cultures where bilingualism is discouraged.

Foster applies the term Popoluca of Veracruz collectively to four mutually unintelligible languages: Sierra (10,000 speakers), Texistepec (3000 speakers), Oluta (3000 speakers), Sayula (3000 speakers). A preliminary phonemic sketch of Sierra and an impressionistic comparison of common roots

[1] Some Observations on Mixed Languages, International Congress of Linguists, Acts 4. 169–76 (Copenhague 1938).

[2] Language 210. Sapir's three processes coincide to a large extent with Vočadlo's threefold classification of languages into homogeneous, amalgamate, and heterogeneous. Yaqui, in Vočadlo's terminology, would fall in the third class, with languages whose "structure reflects the clash of different civilizations. They are distinguished by wholesale importation of foreign terms."

[3] Cf. Father Haile's statement: "Pueblo contact has not influenced Navaho to a noticeable degree, while Spanish elements in the language are comparatively few, and English elements practically none." Learning Navaho 1.1, reviewed in this issue of IJAL.

(based on a 116 word vocabulary, including Mixe and Zoque) are given in support of the author's statements.

Trager's list of the accurately recorded kinship and status terms of the four Tiwa languages—Taos, Picurís, Sandía, and Isleta—will be a valuable source for the comparative linguist and will serve the ethnologist as a truly sound basis for building his conclusions as to the kinship systems of the speakers of those languages.

Harrington "establishes definitively" the phonetics of a South American language, Witoto, basing his study on the comparison of two sources, a report by Preuss,[4] and another by Kinder.[5]

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[4] K. T. Preuss, Religion und Mythologie des Uitoto; Goettingen und Leipzig 1921-1923.

[5] P. L. von Kinder, Gramática y Vocabulario de la lengua Huitota; Pasto 1936.